



LONGTHORNE GUNMAKERS: A CREATIVE ACT

Looking down the barrel of history

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IT'S ALL IN THE DETAILS

The intricacy of the engraving rivals other manufacturers, but the secret (right) is the barrels formed from a single piece of steel.

The story of English gunmaking history exposes a curious paradox. Through an era that lasted from approximately 1880 to 1920, the gunmaking world, with England at its epicenter, was rife with innovation. The sooty factories of London and Birmingham introduced a dizzying array of action and lockup designs, barrel-manufacturing processes, and component patterns, and patents were filed at a furious rate of nearly one per week. The great makers of that period found themselves steeping in a creative epoch that would become known, with the assistance of hindsight, as the golden age of gunmaking.

This window of a few short decades encompassed a revolution in gun craft. What is odd, however, is that towards the end of that time, the collective consciousness of both consumer and producer tired of the creative frenzy, perhaps came to believe its own rhetoric, and determined that perfection had been reached. Thus, an era of innovation would end, nearly a century ago, in a defining absence of the very innovation that spawned it, and in the dust that settled sat a London Best that would serve as the archetype against which all other guns would be judged: Holland and Purdey, Boss and Woodward. These are the guns that legions of gunmakers, indeed a whole gunmaking industry, have attempted, with some success, to emulate.

English Best guns were, and are, exceptional. They express a grace, a beauty, and a feat of handwork that commands attention from any person of discerning taste. Nonetheless, in the hundred years since that golden era ended in an assumption of perfection, the UK trade has effectively shrunk, producing a scant handful of guns annually at the time of this writing, guns made by a fast-disappearing cadre of classically trained actioners, stockmakers, and finishers. Perhaps the English gun trade offers a cautionary tale, descriptive of what happens when we the people decide that a zenith has been reached, and nothing new exists under the sun.

Jim Longthorne Stewart, principal of Northampton's Longthorne Gunmakers, sits in an industrial building some 70 miles north of London and considers Britain's gunmaking history with a shrug. Jim is a ruddy-faced man of middle age who, when speaking about shotgun innovation, struggles to suppress a bemused smile. The factory that surrounds him bears little resemblance to the Dickensian workspaces descriptive of a classic English gunmaking shop; the airy metal building is filled with precision machining equipment driven by touchscreens and computers, design facilities that generate 3D facsimiles of gun components which can, in short order, be rendered in steel or walnut with unfathomable strictness. Here, Jim and his team leverage cutting-edge technology to produce sidelock and trigger-plate shotguns, making every facet of every gun in-house, albeit in a fashion wholly unorthodox by the standards of the English gunmaking tradition. In Jim's estimation, his Longthorne doubles are every bit English Best Guns, expressive of quality and feel that is largely ineffable, but exceptional no less.



Jim is proud to be an English gunmaker. He is proud of the lineage of which he counts himself a part. An engineer at heart, but allowing himself moments of whimsy, he views the English trade as a tragicomedy, one in which a legacy of pride and convention may prove its undoing, an Ouroboros consuming its tail while a world of shotgunners stands by the wayside and watches. And, at the same time, Jim's patriotism, his love of England's gunmaking heritage, compels him to pose some provocative questions of a tradition that has long been above reproach. As he tells it, "When I started out making guns, in a place and a tradition that remains widely considered to be the Best, I asked myself 'Why not make a change just to see what is possible?' I pushed back on the precept that you can't do something simply because it's never been done that way before." It is this spirit that best explains Longthorne Gunmakers, and the process by which Jim Stewart is attempting to reinvigorate the English trade.

Jim and his wife, Elaine—who serves as the company's marketing director—came at gunmaking from an oblique angle. Leading up to Longthorne's unofficial inception in 2006, the two had run engineering, design, and precision manufacturing businesses internationally, spending nearly a decade in Australia before returning to their native England in 1998. Back home, they started yet another company making precision components and tooling for other manufacturers, predominately in the canning and medical sectors. But Jim soon tired

of making parts for somebody else's products. Unable to keep the cogs in his engineer's mind from conjuring up problems in want of solutions, he went looking for ways to turn his imagination to projects a bit more aligned with his passions. In 2006, a shooting companion asked if Jim might have any interest in producing and fitting a pair of aftermarket barrels for a Perazzi. The request set Jim on a course of creative inquiry that grows ever stronger to this day.

Jim approached the barrel project with a sound understanding of shotgun design and function. The specifics of barrel making, however, demanded that he take a deep dive into standardized methods of producing and stacking a set of steel barrels. The upshot of this process was Jim's assertion that, pushing back against convention, he could produce a better, stronger, and more accurate set of barrels by leveraging advanced machining capabilities.

To contextualize, traditional barrels on an English Best Gun were, and are, made by crafting each tube individually and then marrying the pair. Each barrel includes an integral demi-bloc (chopper lump), in effect a big block of metal at the chamber end. The exterior of each tube is filed to smooth and thin its surface, optimally creating uniformity and reducing weight. That aforementioned bloc or lump of metal at the chamber end of the barrel is milled into a dovetail, and the lumps are soldered to fix them together permanently. The barrels, held rigidly together at the lumps or demi-blocs, are then squeezed together over their length to take on a slim profile and achieve a semblance of parallel. Ribs are soldered to the junction to hold the barrels together, and the whole shooting match is blacked and polished.

The problem with traditional barrels is that in pulling the barrels together to approach parallel at the muzzles (most barrels are slightly converging), each tube takes on a subtle bend. The job of a gun barrel is to concentrate the forces applied to a projectile (or a swarm of projectiles) in a linear direction, allowing that projectile to travel in a straight line. Considering that traditional barrels are, by nature, not straight, as each shot flies down the barrel it is forced to follow a bend, which results in a force that pushes the barrel in the opposite direction. The physics at play are perceived by the shooter as muzzle flip or jump, which makes it challenging for a shooter to quickly acquire a following target. Moreover, the shot, which is incapable of following a curve effectively in flight, behaves somewhat unpredictably when it leaves the muzzle. Inaccuracy, however small, is still inaccuracy.

Jim Stewart cares little for imprecision, and he didn't like the barrel-making convention. In his mind, physics dictated that double shotgun barrels should be perfectly straight, and ideally parallel, two givens for which the barrel-making tradition offered no viable solution. So, Jim Stewart decided to go at the problem from a different angle. "Everyone told me that you've got to do it this way because this is the way it was always done. But I looked at the makers of yesteryear; they



Jim and Elaine Stewart

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The solution as Jim saw it was to machine a pair of barrels out of a single billet of steel, boring parallel holes one on top of the other with centers spaced equally at either end. By his estimation, accuracy would stem from each hole being perfectly straight. Incidentally, however, in manufacturing barrels from one piece of steel, Jim could eliminate solder and the application of ribs, effectively placing the tubes closer together without worrying about reducing wall thickness to shave ounces. In the end, he could produce a lightweight, accurate barrel set that could fit into an exceedingly low-profile action, barrels that, due to maintained wall thickness, would exhibit extraordinary strength. An added benefit of the barrel orientation would prove to be less felt recoil.

In 2006, Jim bought 30 billets of steel, some special tooling, and a few customized reamers. He built out the specs for the Perazzi barrels on the computer and set up his equipment to shape the metal to exquisite tolerance. He bored four test holes in a piece of steel to prove his concept and saw very little run-out over the length. Assuming the rest to be a foregone conclusion, he chucked the first barrel blank in the mill and pressed the "go button." Thirty billets of steel, a pile of metal shavings, and four years later, he achieved the desired results.

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The biggest issue that Jim encountered lay in the fact that machining equipment had not yet been developed to create a single-piece barrel set. Reamers would deviate over the length of the bored holes, tooling would dull, etc. In essence, Jim and Elaine Stewart had to invent the machinery to execute the modern process they believed would make the contemporary English gun extraordinary. That took time and money. But by the Game Fair in 2010, Longthorne Gunmakers had something novel to present to the sporting public. With the barrel-making process sorted, Longthorne found itself in need of a gun to go around the barrels.

As the Stewarts tell it, the barrels on a Longthorne are the foremost design innovation. The sidelock gun that they first built as a platform for the barrels was a nod to traditional design and aesthetic, because, as Jim will tell you, “a Best English sidelock is a really, really nice thing.” The originality in Longthorne gun manufacture lies in a process that bloomed out of lessons learned during the barrel-making journey. Each component of the Longthorne sidelock (of which there are about 132), was conceived with pencil and paper, transferred to CAD, refined, and fabricated by machine to the highest degree

MACHINED BY HAND

Each piece of the gun is made within the Longthorne factory—every pin, every plate, everything.

of precision. Over successive guns, weight was shaved, components were tirelessly refined, and metal surfaces were finished to a mirror polish. Wood, like metal, was selected from a growing inventory of high-grade walnut, then shaped and inletted by machine, with final fitting executed by hand. The goal at Longthorne was never to make the gunmaking process fast or cost-effective. Rather, Jim and his team wanted to make the very best gun possible, using whatever means necessary to be successful. He’d returned to a place of innovation, one wherein superlatives were the carrot that kept tempting him forward.

In the years since those first sidelock guns were realized, Longthorne has continued to invent and reinvent its methods. Barrels milled from a single piece of metal remain the primary differentiator of the brand, though the parallel barrels that Jim worked so hard to realize became a sticking point for many buyers. Says Elaine, “Modern barrels on modern shotguns are converging, but the degree of convergence is so small that it doesn’t matter. The gun performs perfectly with parallel barrels, but we got so many questions about them, we gave up. Our barrels are still perfectly straight, but we built in a bit less than half a degree of convergence to keep the customer happy.” Recognizing the demand for a lower-maintenance, lower and wider profile gun for competitive target shooting (sidelocks should really be stripped and cleaned annually), Jim and Elaine went back to the design desk and rolled out a trigger-plate action. The trigger plate now makes up the bulk



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go in one door, and finished shotguns go out another. This is a real point of pride for the Stewarts, this ownership over the entire process. "We don't run into supply-chain issues," says Jim with that sardonic smile.

Those tweedy types who interpret these feats of ingenuity as gestures of irreverence need only pick up a Longthorne, look it over carefully, and swing it on a few birds or targets. It's hard not to like a Longthorne, to find it beautiful, and somehow familiar while also completely unique. There is a marriage of form and function in each Longthorne gun that is emblematic of the ineffable quality that compelled the world to settle on the archetypal English Best. Says Jim, "things can be made beautifully and also made precisely, with the assistance of technology. Each gun we make has to look beautiful, and the function has to be there. But ultimately the gun has to *feel* right when the shooter picks it up and closes his or her eyes."

In the context of a centuries-old gunmaking tradition, Longthorne is still in its adolescence. It is proving capable beyond its years, however, and the shooting world is taking note. Inroads are just now being forged in the US market, and guns are increasingly showing up in the hands of target shooters. Jim and Elaine are constantly fiddling, refining, and improving upon what they have done before. In an airy industrial building 70 miles north of London, the attitude is something akin to that which must have been felt in the factories of England's golden age. At Longthorne, it's a moment of tireless innovation driven by a desire to try things out, simply to see what might happen.

Jim Stewart considers the relative stagnation of the greater English trade and nods toward his production floor. A small handful of employees are buzzing about, punching numbers into touchscreens, watching machining equipment hum and buzz. "Look at the guys," says Jim, indicating his small staff. "They are all interested. They like coming to work because every day there is something new happening."

Which, in effect, is how any creative act should be approached. Conventional thinkers, those who play by the rules, rarely make history. The makers at Purdey and Holland, Woodward and Boss, knew this a hundred years ago, and Jim Stewart knows it now. With Longthorne Gunmakers fanning the flames of innovation, interesting things might well lie in store for the English trade. ♣

of production and provides customers with a lower price-point gun, but one of exceptional durability and reduced maintenance. As the lineup of variants grew and demand rose, the duo formally brought their daughter Chloe into the business as director of creatives, in which capacity she designs standardized and bespoke engraving patterns that can be executed in-house by machine or outsourced for implementation by hand. Even in the embellishment of the guns, Longthorne will not be constrained by convention. Chloe gives a nod to traditional patterns of rose and scroll, or Celtic weave, but creates decidedly fresh engraving... not jarring, mind you, or without reverence for what has come to be viewed as expected on a fine English double, but original, nonetheless.

In its current state, Longthorne Gunmakers produces trigger-plate and sidelock guns in over/under, and sidelock side-by-sides. Standardized models are largely differentiated by engraving pattern, but customization and bespoke options are limited only by the imagination. Guns are available in all gauges and barrel lengths, balance points can be specified, and Longthorne can even offer additional barrel sets in titanium. Think, a 32-inch-barreled 28-bore sidelock that weighs less than 5 pounds... a sub-4-pound .410 with 30-inch titanium tubes is in the works. Guns are generally delivered in eight months to a year. What is most remarkable, perhaps, is that the entirety of each gun is built in-house. Raw metal and walnut

