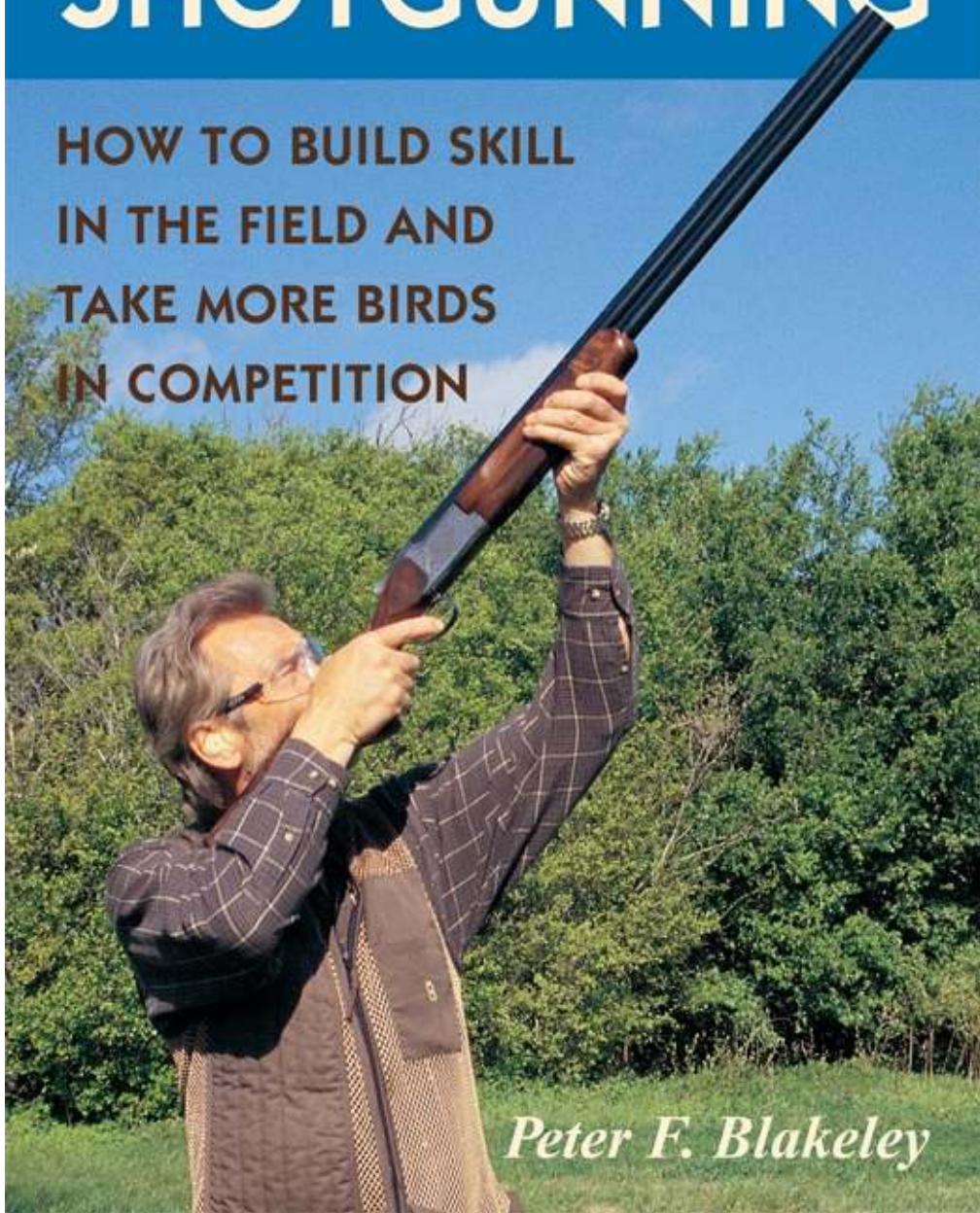


SUCCESSFUL SHOTGUNNING

HOW TO BUILD SKILL
IN THE FIELD AND
TAKE MORE BIRDS
IN COMPETITION



Peter F. Blakeley

SUCCESSFUL SHOTGUNNING

*How to Build Skill in the Field and
Take More Birds in Competition*

PETER F. BLAKELEY

STACKPOLE
BOOKS



0 11557 00042 9

Published by
STACKPOLE BOOKS
5067 Ritter Road
Mechanicsburg, PA 17055
www.stackpolebooks.com

All rights reserved, including the right to reproduce this book or portions thereof in any form or by any means, electronic or mechanical, including photocopying, recording, or by any information storage and retrieval system, without permission in writing from the publisher. All inquiries should be addressed to Stackpole Books, 5067 Ritter Road, Mechanicsburg, Pennsylvania 17055.

Printed in the United States

First edition

10 9 8 7 6 5

Cover photo by Hollie Blakeley
Cover design by Caroline Stover
Illustrations by Linda Rogers

Library of Congress Cataloging-in-Publication Data

Blakeley, Peter F.

Successful shotgunning : how to build skill in the field and take more birds in competition / Peter F. Blakeley.— 1st ed.

p. cm.

Includes index.

ISBN 0-8117-0042-9 (hardcover)

eISBN 978-0-8117-4370-9

1. Trapshooting. I. Title.

GV1181 .B52 2003

799.3'132—dc21

200300384

ISBN 978-0-8117-0042-9

To Alison,

*my eternally patient
and supportive wife*

[Foreword](#)

[Preface](#)

[Acknowledgments](#)

[Introduction](#)

[1. The Shotgun: A Brief History](#)

[2. Gun Safety and Shotgun Etiquette](#)

[3. Which Gun?](#)

[4. Recoil and How to Tame It](#)

[5. Eye Dominance: Diagnosis and Some Eye Problems](#)

[6. Gun Fit](#)

[7. Stance, Mount, and Swing](#)

[8. Application of Lead and Various Shooting Methods](#)

[9. The Modern Shotshell](#)

[10. Internal Dynamics, Chokes, Barrels, and Forcing Cones](#)

[11. Proof of Guns](#)

[12. The Pathway to Pointability](#)

[13. That Shot-String Thing](#)

[14. Pattern versus Penetration](#)

[15. The Logic of Lead](#)

[16. Evaluating Range](#)

[17. Cleaning and Maintenance](#)

[18. Sporting Clays](#)

[19. Skeet Shooting](#)

[20. Addicted to Dove](#)

[Index](#)

Peter Blakeley is one of the most involved, enthusiastic, and animated shotgunning aficionados I have known in my thirty years plus of competing. Since I do most of my practicing at the Dallas Gun Club, I have experienced a few years of the “Peter Blakeley experience.” Peter gives about 150 percent of the time. If he is not teaching on the field, he is discussing shooting theory with other shotgunners, is changing the sporting clays course, or is writing an article for a shooting magazine, or is looking for someone with whom to discuss the finer points of shotgunning. I have rarely seen him stand still. As far as I see it, all his efforts are in an attempt to achieve his ultimate goal: the tireless pursuit of the art of shotgunning.

At first, communications with Peter were not crystal clear. When a heavily accented Scot tries to carry on a conversation with a native Texan, one would have a very difficult time believing that both are speaking the same language. I have adjusted, however, and now know that “shotgoon” means shotgun.

As we come from different backgrounds, we were often wary of each other’s philosophy regarding certain shotgunning theories. But after many discussions, I can honestly say that I have benefited greatly from Peter’s philosophy and his unique presentation. He has given this old skeet shooter a fresh perspective on shooting theory.

Peter has compiled a treasure of great information and shooting theory, along with some great shotgunning tales. Pay attention to what he has to say.

Robert Paxton is a thirty-two-time all-American skeet shooter, two-time high overall world champion and nine-time Texas state champion, and he has set numerous world records throughout his shooting career. Robert was inducted into the National Skeet Shooting Association Hall of Fame in 1995.

This book is based on my personal knowledge of shooting methods, including over forty years of wingshooting, over thirty years of sporting clays experience, and over twenty-four years as a full-time shooting instructor in the United Kingdom and here in the States. During those years, I have written many instructional letters and articles. I currently write articles for *Sporting Clays* magazine. I have a genuine enthusiasm and willingness to communicate all this accrued knowledge to you, the shooter. However, the contents of this book should never be considered a substitute for shooting lessons. Quality shooting instruction is a worthwhile commodity, and long-term involvement with a good coach should improve anyone's game tremendously. Nor is this book for beginners, although it contains material that is beneficial to the beginner. I hope you will come to think of *Shotgunning* as a reference book, one that offers a better understanding of the shooting process as a whole—a guide to the evaluation of targets in wingshooting situations either in the field or a competitive environment such as on a sporting clays course or skeet field.

Some guys will tell you that their success with a shotgun is unimportant to them. You know, the “I don't care if I hit anything, I just like to see the dogs working, feel the wind in my hair, and be out with nature” guys. Really? I don't believe any of it. Nobody likes to miss, and with good instruction everyone can improve. Nobody hits them all, either, and a bad day's shooting is often more enjoyable than a good day of doing some of the more menial tasks that take up large chunks of our lives, but make no mistake, the enjoyment of the shooting experience as a whole is defined ultimately by the proficiency with which we use a shotgun. So here's something to think about. The aspiring shotgunner has absolutely no control over any airborne target. Once he triggers the shot, it's over. It would make sense, therefore, to pay more attention to the things that he can control—gun fit, stance, mount, swing, and most important of all, visual ability to accurately evaluate all the variables involved. This book will show you how.

ACKNOWLEDGMENTS

During the course of my shooting life, many people have influenced my decision to write this book. Many of them are valued personal friends and acquaintances who contributed in some way with their vast accumulations of knowledge of the sport of shotgunning. (This isn't to say that, on various shooting-related topics, we are always in agreement.) They include Andy McCloud, head keeper of Lord Edgerton's estate in Cheshire; Bob Brister, *Shot-Gunning: the Art and the Science*; Cyril Adams, *Lock, Stock & Barrel*; Michael Yardley, *Gun Fitting: the Quest for Perfection*; Sam Shille, ZZ bird (Helice) champion; Roger Silcox, Clay Pigeon Shooting Association (CPSA) staff tutor; Mike Howells, former 1996 Sporting Clay World Champion; Robert Paxton, thirty-two-time all-American skeet champion; Brian Mitchell, head grouse keeper on the Duke of Buccleuch's estate in Langholm; John Baxter, head keeper at Westerhall Estate; Patrick Hope-Johnstone, his Grace the Earl of Annandale; David Hope-Johnstone, the young Earl; and Thomas Florey, estate manager, Earl of Annandale's estate, Southwest Scotland. I thank Barbara Dickson, Mace McCain, Martin F. "Bubba" Wood, and Bob Troutt for their advice and help with photographs. Last but not least, I give special thanks to my friend Ralph "Cush" Cushman from Anchorage, Alaska, who dedicated many hours of his spare time to edit the manuscript. Cush is a rare find; editors with his combination of literary skill and expert knowledge of the art of shotgunning are few and far between. He did an admirable job.

It has been my pleasure and privilege, over the last thirty-five years or so, to meet many shooting men who are skilled and accomplished with a shotgun. During most of those years, I lived in an ideal location, with some of the best sporting estates in the world within view of my doorstep. I've seen shots that can pull a stratospheric, soaring archangel cock pheasant from the clouds high above a wooded glen at Westerhall Estate, and others that can successfully decipher all the directional changes and intercept a heather-hugging red grouse as it rides the wind over the misty, purple hills of the Roan Fell. I've seen the guys who can stroke a white-wing dove, cruising the thermals of a hot Texas breeze out of the sky, and the quail hunters who can snap-shoot a bobwhite with the speed of a striking rattlesnake—quicker than most of us can blink an eye. I've seen Robert Paxton, thirty-two-time all-American skeet champion and one of the best skeet shooters in the world, systematically pulverize targets with enviable precision. I've watched former World Sporting Clays Champion Mick Howells pause for a moment before taking a second, successful shot at a target that defeated him on the first. The parameters are the same; all these guys have something in common—they don't succeed by accident. They are all specialists in their own particular way. They have honed their skills and refined their techniques to the point where there is no guesswork involved. They have developed the ability to evaluate moving targets and put their shot pattern precisely where it is needed. Anyone who believes that these men have the ability to do this because of some inherent trait, and that they have become expert shots by relying on instinct alone, should think again; it just doesn't happen. The so-called "natural shot" is as mythical as the unicorn.

Years ago, in the days of my youth, fish, fowl, furry animals, and especially firearms were a distraction for me. Firearms? Ah yes, seductive and enticing. My parents were apprehensive about firearms, but for me, they held an overwhelming fascination. I was attracted to them like a moth to a light. Even before these, more humble means of *armes du chasse*—in fact anything that would hurl some sort of projectile—was considered: bows and arrows, catapults, and a blowpipe made from one of my mother's tubular brass curtain rods. The blowpipe fired darning needles with suitably fashioned tufts of wool for flights. These were wicked looking, surprisingly accurate, and potentially quite deadly, as my older sister and the cat next door often found out to their discomfort.

As is usually the case with any fledgling hunter, these early targets were stationary, but as I eventually aspired to moving ones, I soon found out that it was necessary to "lead" them in order to connect. I would practice this by firing rocks at my father's tin army plate with a catapult (slingshot). A friend would throw it into the air or roll it down a hill at the local golf course (the original bolt-rabbit?). We would do that for hours. Later, I progressed to a "Diana" pellet gun and, eventually, when I was ten, my first shotgun—a bolt-action Webley & Scott .410. With a gun tucked under my arm and a few Eley Fournal shells in my pocket, my spirits would soar and I was in paradise. I would wander the fields and woods of the surrounding countryside, oblivious of time, hoping to get a shot at a rabbit or pigeon.

My enthusiasm was shared by like-minded others, and we would fish and hunt to the exclusion

everything else. During the summer holidays, it became a lucrative business. We could get three pence each for a rabbit or pigeon and six pence for a hare. We were grubby, unruly individuals with unkempt hair and permanently skinned knees, as wild as the heather, and we would spend all our daylight hours on these *forays du chasse*. We were probably ten or eleven years old. Guns and anything with explosive capabilities were our passion, and our *piece de resistance* was a cannon with a two-inch bore, which we engineered from a steel scaffolding tube fixed to a set of pram wheels. The crude propellant for the shot charge was a deadly concoction of sodium chlorate weed killer, sugar, and potassium permanganate, and it was certainly productive. An enticing bait trail of potato peelings and old, blackened bananas, which we would beg from the green grocers' shops, would be put down in the shallow waters around the edges of the local disused gravel pits. Concentrations of teal and mallards would be in abundance during the winter months, and we would ambush them with the cannon as they unsuspectingly wafted in at dusk. Sportsmanship and hunting ethics were not an issue in those days, and a dead duck was, well, quite simply a dead duck. Business was business, and although rabbits and pigeons were good, ducks were even better. We would wander along the cobbled streets and sell them door to door, cleaned and oven-ready, for six pence each. Diana, the goddess of hunting, must have smiled down upon us all. How we managed to survive through this pyrotechnical period without a loss of a finger, eye, or other part of our anatomy, I have no idea. My poor mother worried incessantly about the next unscheduled appearance from the local constabulary, but I was unperturbed and undeterred by her scolding.

In these early days, I lived in the north of England, but I later moved to Scotland. Cartridges were expensive, and out of necessity, anything that I could shoot was eaten. A lucky shot at something edible was a welcome weekend treat. Despite this, my grandmother would call me unpleasant names, and I could never fully understand why. On one occasion, as I proudly appeared at the kitchen door with a cock pheasant, his resplendent plumage glowing amber and black like campfire coals, she referred to me as a bloodthirsty child. Meal times were a family affair, and the next weekend, as we gathered for the feast, I watched in silence as Grandma took great pride and pleasure in ceremoniously carving the Sunday lunch, an anemic-looking supermarket chicken. Comparisons with the pheasant were futile, and I soon learned to accept the situation. Hunters are often the targets of unfettered emotionalism, and certain areas of our society sometimes disapprove of our actions for the flimsiest of reasons. But I was inescapably a predatory animal, and as soon as the backs of my critics turned, I would search for other things to shoot. A kindred spirit to the elements, with passions residual from some ancient hunting ancestry, I would strive to put something in the bag on my hunting trips, time being immaterial.

I enjoyed an advantageous location. I was slap-bang in the middle of some of the best sporting estates in the world, with no shortage of gamekeepers to give me free advice. One man helped me more than any other—Andy McCloud, the head keeper on Lord Edgerton's estate at Tatton Hall in Cheshire. I can hear his booming voice ringing in my ears even today, after an uncoordinated poke at a cock pheasant, "Don't shoot *at* him, laddie. Put t' shot where he's *going!*" Very good advice. Years later, I had the pleasure of shooting on some of the best estates in Scotland, including the Earl of Annandale's estate, where I was the chief shooting instructor until I moved to the States, and the Duke of Buccleuch's estate in Langholm, where I owned my gun shop, Border Tackle & Guns. The Earl of Dalkeith's grouse moors in Langholm were at one time considered by many to be the best in the world. In fact, the Scottish record stands at 1,261½ brace, which was shot off the Roan Fell on August 30, 1911. The head keeper, Brian Mitchell, is a friend of mine, and I have walked the purple, hallowed

heather surrounding Langholm many times. Until recently, the historic Langholm grouse moors made a significant economic contribution to an area that hitherto was incapable of supporting anything else apart from the occasional sheep. Sadly, the days of the big bags are gone, but not forever, I hope. As this was many years ago. And now? I am proud to be the resident shooting coach and club professional at what is considered by many to be one of the most elaborate and prestigious shooting facilities in the world, the Dallas Gun Club in Lewisville, Texas.

Shooting's a funny game, and owning a gun shop is a bit like the proverbial curate's egg—good in parts. Shooters befriend you sometimes for the wrong reasons: discounts on shooting paraphernalia and good deals on shells and guns immediately spring to mind. On the upside, you get a lot of invitations to shoot, but I was never really sure why that was. I would like to believe that it was because people thought that I was a nice guy, or that I had a couple of well-trained Labradors that were sought after to pick the birds on the pheasant shoots, or that I was a shooting instructor. The downside? When the chips are down, shooting instructors aren't allowed to miss or have a bad day under any circumstances. There is always one stratospheric cock pheasant that, at the end of a drive, tries hard to emulate the actions of a kamikaze pilot and commit suicide just before the final whistle sounds. This usually happens when everyone else is unloaded, looking in the wrong direction, or at least pretending to be. "Your bird, Peter!" someone (usually with a grin on his face) bellows. When this happens, I am instantly plunged into a dilemma, a certain lose-lose situation. If I make the shot, the comments will be equally divided.

"You see that shot Peter made? Brilliant! That bird must have been fifty yards at least. Folded his wings up like a pack of cards, he did!"

"Yeah, but don't forget he *is* a shooting instructor. If he can't hit 'em, who can?"

And if I missed? Same result.

"I thought you said that Peter was a shooting instructor? How did he miss that shot? Don't think I should be taking a lesson with him!"

So what's the answer? Make sure I don't attempt any "pressure" shots that are too far and hope I don't miss any that I couldn't possibly avoid. As I said, shooting's a funny game.

True shooting instructors are a breed apart. They are sucked into this profession gradually over a period of time, during which there is a natural progression of learning, a lifetime's accumulation of technical and practical knowledge. Although I shot competitively for many years and was the equivalent rank of a state champion, a top shot doesn't necessarily make a good coach. Ken Davie, the chief instructor at Holland & Holland, is probably the best-known shooting coach in the world. He has never really shot competitively, but his success as a coach is legendary. Genuine enthusiasm, a sense of humor, good communication skills, patience, and the ability to read the client and recognize when your methods aren't working are far more important than shooting ability. Regardless of what they say, everyone who picks up a shotgun for the first time is apprehensive. A good coach should have the ability to establish a rapport quickly and make a client feel at ease, and as a result, the lesson will be more enjoyable for both parties. The look on the face of someone who has always wanted to shoot but doesn't try it for fear of failure, as he learns to break targets, gives me a feeling of elation that is hard to describe.

For many years I have considered writing a clear, concise, definitive book on the art of shotgunning or more precisely, wingshooting and sporting clays. So why, after such a long involvement in the sport, would I suddenly feel the urge to do it now? Although we have had shooting schools for

hundred years or so in the United Kingdom, they are a fairly recent addition in the United States. ~~Mainly due to the explosive interest in sporting clays and double-guns over the past fifteen years,~~ shooting schools are currently springing up all over like flowers in a roadside ditch. There are more shooting instructors out there than fleas on a hedgehog's back. Some are good and some not so good, but make no mistake, all of them are determined to persuade you, the shooter, to part with your hard-earned dollar. People with far less experience than I are climbing aboard the shooting bandwagon and either producing how-to videos or writing a book on the subject, so I might as well throw my two pence in!

So, mainly in an attempt to help all the guys (and gals) out there who are thirsting for knowledge about how to become a better shot, here goes.

The Shotgun: A Brief History

It is a widely held belief that it was the Chinese and Hindus who started it all with their crude cannons and ceremonial firecracker parades, as far back as 500 A.D., even though there is no concrete evidence of this. Gunpowder (or something with similar explosive capabilities) was used in the siege of Constantinople in 688, and there are records that show that the Arabs and Saracens used it at the siege of Mecca in 690. The original formula is vague, and the actual composition of the explosive was a doubtful quantities of saltpeter, charcoal, and sulfur. We know from early manuscripts that the Greeks had “fire tubes” fixed on the bows of their ships as early as 1098, and in 1218, artillery was used in battles at Toulouse. So who actually invented gunpowder?

The first man to write about the actual composition of gunpowder was undoubtedly Roger Bacon, of Oxford, but his writings were always shrouded in mystery. There is evidence that by 1280 early firearms were already belching out death and destruction in Spain and North Africa. Little did any of these early artillerymen realize that the discovery of the explosive properties of saltpeter would, over the next several hundred years, lead to the development of the weapons of destruction and complete instruments of recreation that we have today.

The first semiportable guns were made from two pieces of hard wood, each with a groove down the center, fastened together with iron hoops to strengthen them. Evidence suggests that these were in use in China and other Far Eastern countries. Foot soldiers on the battlefields (staggering under the weight, no doubt) would carry these cannons to the front line and attempt to wreak havoc on the opposition. When in position, these primitive firearms were wedged between forked sticks and pointed in the general direction of the approaching enemy. The other end of these crude guns was stuck in the ground just before firing, to give some resistance to the force of the recoil. The usual projectiles hurled from the end were roughly round stones.



A semiportable gun of around 1370–1450. These were usually constructed from two pieces of hard wood, each grooved down the middle, joined together and then reinforced with iron hoops. The crude projectiles were round stones.

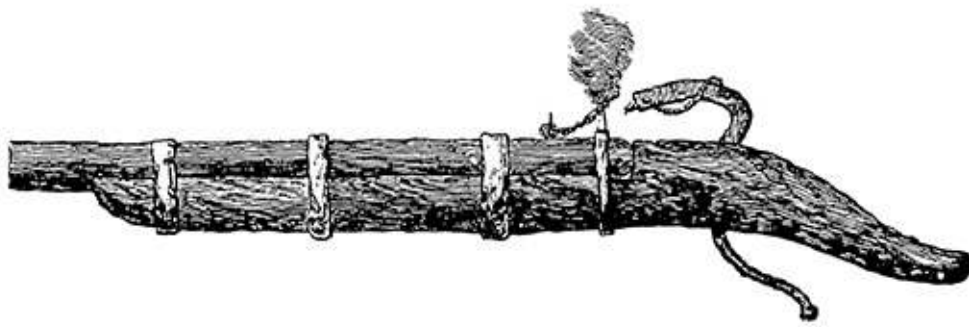
Gunpowder eventually made its way to Europe, and there is no doubt that in England during the fourteenth century crude cannons or “hand gonnies” were used as weapons of war but with little effect. These early cannons consisted of simple iron tubes, primitively fire-forged around a central former “mandrill” and welded shut at one end. These crude tubes were mounted on wooden shafts to give some sort of control as they were aimed at the enemy. There was no lock mechanism; the soldiers had the unenviable task of sticking a match (a smoldering piece of rope soaked in saltpeter) into the crude touchhole at the end of the weapon at exactly the most opportune moment. The idea was to surprise and temporarily subdue the enemy with the noise of the explosion, and it was this element of surprise that was the main advantage over the bow and arrow. Unfortunately, the disadvantages often outweighed the advantages. If the powder was damp or, even worse, it started to rain, the opportune moment sometimes didn’t present itself. This doubtful reliability, combined with the visual distraction of dozens of blood-strained, battle-ax-wielding adversaries bearing rapidly down on them, was usually enough to deter all but the bravest of these early artillerymen. Small wonder that most of these guys opted for the reliability and vastly superior range of the crossbow or longbow!

The superiority of the bow continued well into the eighteenth century, and there were many contests between the musket and the longbow. One at Pacton Green in Cumberland in 1792 proved “conclusively” that the bow was superior both in range and accuracy, placing sixteen arrows in the target, while the musket placed only twelve balls. The result was hailed as a triumph for the longbow, but there was also evidence that the archer in the contest was an expert in his field, and although the result was impressive, the bow was already as efficient as it could be, whereas the gun would continue to improve.



Hand “cannoneers” of about 1390–1450. The “gun” was ignited by means of a handheld smoldering match soaked in saltpeter.
Woodcut from the *Rudimentum Noviciorum*, Lübeck, 1475.

By the early sixteenth century, the “hand gonne” had evolved sufficiently to enable it to be used with more success, and by this time a crude lock, known as the matchlock, was employed. This was a simple device that carried the “match” in a “serpentine” shaped like a striking snake’s head. As the trigger was pulled, the serpentine struck forward to ignite the powder in the flash pan, which was located on the side of the gun next to the touchhole where the main charge was. The slow-burning match needed to be moved forward manually during use, which must have been a problem if the enemy decided to press home a surprise attack, but at least it was an improvement. The serpentine lock allowed the user to have both hands free (at times) to support and maneuver the weapon. More accurate and powerful than both the longbow and crossbow, the matchlock and its advantages were quickly appreciated, and it became the weapon of choice for the aristocracy of the era. Matchlock rifles, loaded with a single lead ball, were used to hunt the large animals that were plentiful in the forests of Europe, and these same guns could also be loaded with small pieces of lead to give a useful shotgun pattern. This early lead shot was known as a Hayle shot, and it was made by clipping pieces of lead from a sheet. These small pieces were then placed in a “rattler” or “tumbler,” which resembled a small butter churn and turned over and over to knock the corners off. The resulting patterns, due to the primitive aerodynamic qualities of this shot, must have been of considerable size. It was during the reign of Henry VIII that the use of these early scatterguns for fowling was first mentioned.



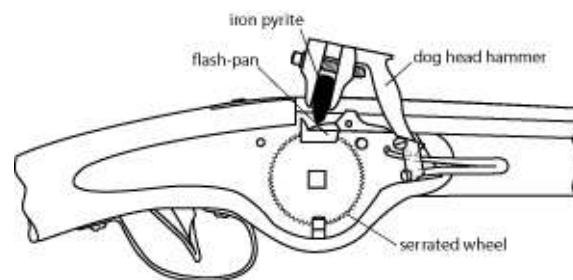
The crude matchlock of about 1450 was the first lock. This was nothing more than a handheld cannon with a primitive S-shaped trigger, the top of which held a smoldering match. Both hands could now be used to steady and aim the handgun as the shot was triggered.

Up to the reign of King Henry, all battles were fought with the royal archers, and the English longbow reigned supreme on the battlefield at extended ranges, cutting down the enemy with barrages of arrows. Although there are exaggerated reports of the potency of the longbow, there is no doubt that the arrows would pierce armor as easily as a musket ball would, and it could be reloaded much quicker in the heat of battle. There are authenticated cases where the bows used by the North American Indians would send arrows completely through the buffalo they hunted. The longbow won many battles, and the English retained it as a weapon of war even though the early firearms were rapidly gaining ground. The use of guns for either military use or hunting was forbidden by the king except by special license, but by 1537, the superiority of the matchlock over the longbow was being proved. About this time a “crack” artillery regiment, the Guild of St. George, was formed. The gun it used was known as the matchlock arquebus.

At first this permitted use of firearms was restricted to this regiment, who were also known as the Honorable Artillery Company of London, but by 1545, landowners and certain citizens who were in favor with the king were permitted to hunt under royal license. This license was granted only on the deposit of a bond of £20 into the royal coffers, and this money was to be forfeited if any of the complicated hunting laws was abused. The illegal use of firearms was frowned upon, and to enforce these rules, royal forest keepers were employed, each armed with a matchlock. There were still penalties for shooting the king’s deer and fowl. Despite these harsh penalties, official measures had little effect on the poor country folk, and throughout the harsh winter months, they had no choice but to attempt to supplement their meager diet with a potshot at anything that came within range of the guns. Hungry mouths to feed and a rumbling belly would eventually always override fear of the consequences. There was a huge demand for black market guns, much to the delight of local blacksmiths, who would forge the barrels in the same way as the medieval cannons of the earlier era. There was a downside for these desperate poachers, however. The longbow had been silent, but the audible report of the more efficient matchlock would often betray the hunter’s position to the king’s keepers. Many of these early poachers paid the price of ignoring the stringent royal laws with their life. Public beheading was fashionable in those days, and as a royal disciplinary example, it was unsurpassed.

These restrictions would remain in force in England for some time. Birds for the elaborate banquets of the aristocracy were either hunted from horseback with hawks or falcons or netted in large numbers with the aid of hunting dogs. Birdlime and snares were also used. However, the invention of rifling barrels and the development of the wheel lock made stalking with the gun much easier throughout

Europe for two reasons. The rifling greatly improved accuracy, and with the wheel lock there was no need to carry a smoldering match to fire the gun. The inventor of the wheel lock is apparently unknown, but because it was considered in those days to be a complex and intricate mechanism, it was thought to originate from the clock-making areas of Germany or Italy. In the wheel lock there was a serrated steel wheel, as its name implies, which was powered by a small, coiled mainspring, similar to a clock. A small, square-ended key or spanner wound up this spring. The hammer (or cock) of the gun was lowered against this wheel if there was the chance of a shot, and as the trigger was pulled, the wheel would then rotate against this, similar to the disposable cigarette lighter of today. The sparks were produced by a piece of iron pyrite, which was held in the jaws of the dog-head hammer. Priming powder in the flash pan was used to ignite the main charge. Hunting with these early rifles and shotguns was common throughout Europe by the mid-sixteenth century.



The wheel lock mechanism was a wheel device powered by a circular spring, rather like a clock spring. The serrated wheel was wound with a square-ended key, and as the trigger was pulled, the wheel revolved against the iron pyrite, which produced the sparks to ignite the priming powder in the flash pan.

The earliest reference work I can find on the subject of bird hunting in England is contained in *The Merry Wives of Windsor*, which was written in 1597 by Master Ford. He refers to “going out birding” in the book, but unfortunately, there is no reference to the type of weapon or how it was used to shoot these birds. The earliest records of the art of shotgunning were made in the classic treatise *Hunger’s Prevention or the Whole Arte of Fowling by Water and Land*, by Gervase Markham, written in 1621. At that time, bird hunting was popular as a necessary method of supplementing the winter diet, but there was no sport or sentiment involved. The idea was to approach as near as possible to flocks of ducks, geese, pheasants, or anything else that looked as though it might be edible. All the guns were long barreled, necessary to allow the pressure to build up and push the shot charge out the end with enough velocity to kill and maim as many birds as possible. Markham suggested that a fowling piece should be at least 5½ to 6 feet long and of 16-bore gauge, which was about .662 of an inch. Because the birds were shot on the ground, there was no incentive to modify the barrel length. Markham also mentions the use of a stalking horse. This was exactly as the name suggests, an old farm nag that had seen better days and was long past its sell-by date for useful farm labor. Any old horse would do, providing it was reasonably quiet and presumably fairly deaf. The intrepid hunter would use this old nag as a moving screen to creep up on his quarry and blast away, until any fowl that remained realized that the horse had lethal qualities.



A stalking horse, any suitable old farmyard nag that was past its sell-by date, was sometimes used to approach feeding flocks of waterfowl without being seen. Due to the extremely inefficient powder and the resultant slow buildup of pressure during ignition, “fowling pieces” were usually anywhere between 5½ and 6 feet long. Engraving from *The Gentleman's Recreation*, 1686.

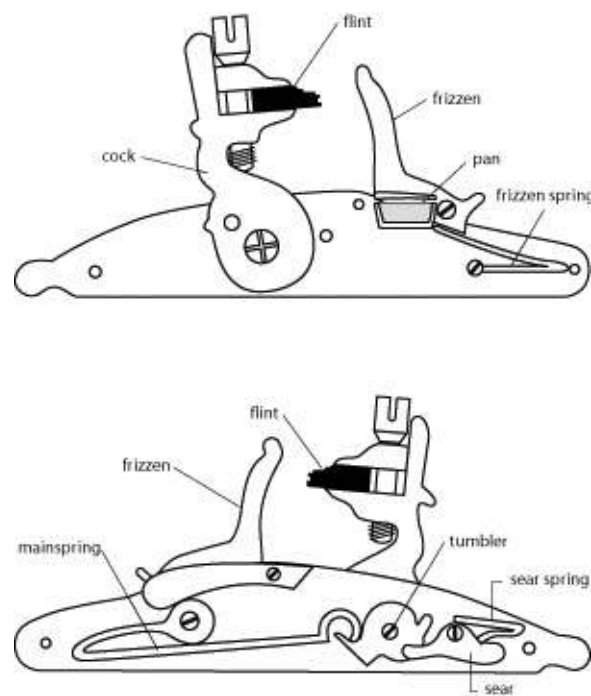
THE EARLY FLINTLOCKS

In about the middle of the sixteenth century, a simple version of the flintlock was produced in Europe, possibly Scandinavia. This type of lock was called a snaphaunce, an aptly descriptive word derived from Dutch meaning “pecking hen.” A flint was gripped firmly in the jaws of the cock by means of a turn screw. The cock snapped forward upon the trigger-pull to hit the flash pan cover, which then exposed the priming powder to the sparks. These snaphaunce locks rapidly became more popular across Europe and remained popular until the early eighteenth century.

It was in the early seventeenth century that the English, or “dog-lock,” mechanism was perfected. All the weapons of this period were still muzzleloaders, and although many of the European gunmakers had attempted to produce a weapon that could be loaded more efficiently, these efforts had failed because of the massive exchange of gas at the junction of the breech and action face. There was no satisfactory way of inspecting the status of the barrels of these muzzleloaders, except by unscrewing the breech plug, which was a tedious operation for the avid bird hunter. Consequently, carelessly loading too much powder and shot in the heat of the moment could have disastrous, sometimes fatal results. How those primitive barrels must have stretched at times, and I dread to think how many fowlers lost a few fingers here and there due to a burst barrel, or an eye due to the

inevitable flashbacks that must have occurred. More and more fowling pieces were imported from the continent, notably France and Italy, and in 1637 a charter was granted by King Charles I that required that all imported guns be “proofed” by subjecting them to greater stress than they would receive under normal use. The barrels that passed these tests were stamped with proof marks. These were the letters *GP* under a crown, which stood for gun makers proof.

King Charles II had spent many years in exile on the continent, and upon his return to reclaim his throne with the restoration of the monarchy in 1660, he brought with him French flintlocks of the best quality. During his exile, the king and his followers had developed a taste for shooting flying game, which was already popular on the continent. Lighter and more pointable fowling pieces were imported, mainly from France and Italy, and the English gun makers were quick to respond to them with their own designs in an effort to overtake their French rivals. These guns had single barrels, usually about four feet long, and were still cumbersome by today’s standards, but they were certainly better balanced and a distinct improvement on the fowling pieces of the previous century. Theoretically, it was now possible to attempt shots at flying targets by keeping the gun out in front of the bird (the origins of sustained lead?), until the shotcharge had left the barrels. In his book on shooting flying game, *The Gentleman’s Recreation*, published in 1686, Richard Blome relates that shooting from horseback was popular, with servants and dogs standing by to retrieve the birds.



The flintlock mechanism. The earliest form of flintlock was called a snaphaunce, derived from the Dutch word meaning “pecking hen.” From the snaphaunce, the true flintlocks evolved.

The flintlock mechanism continued to undergo several minor improvements over the next 150 years or so. This was a period of consolidation for the gun-making industry in England, and the English craftsmen in the late eighteenth and early nineteenth centuries continued to produce guns of increasingly better design and efficiency. Until the late 1700s, all barrels were made by forge welding around a mandrel, but some ingenious barrel maker hit on the idea of welding strips of horseshoe nails, which were coiled around the mandrel in a spiral fashion to produce a circumferential seam. This method produced a barrel that was stronger and thinner than the early barrels where the seam was longitudinal. The method was the basic principal of the Damascus barrel, which was further developed by Rigby of Dublin.

This was a period of rapid change, and there was fierce rivalry between gun makers to bring the

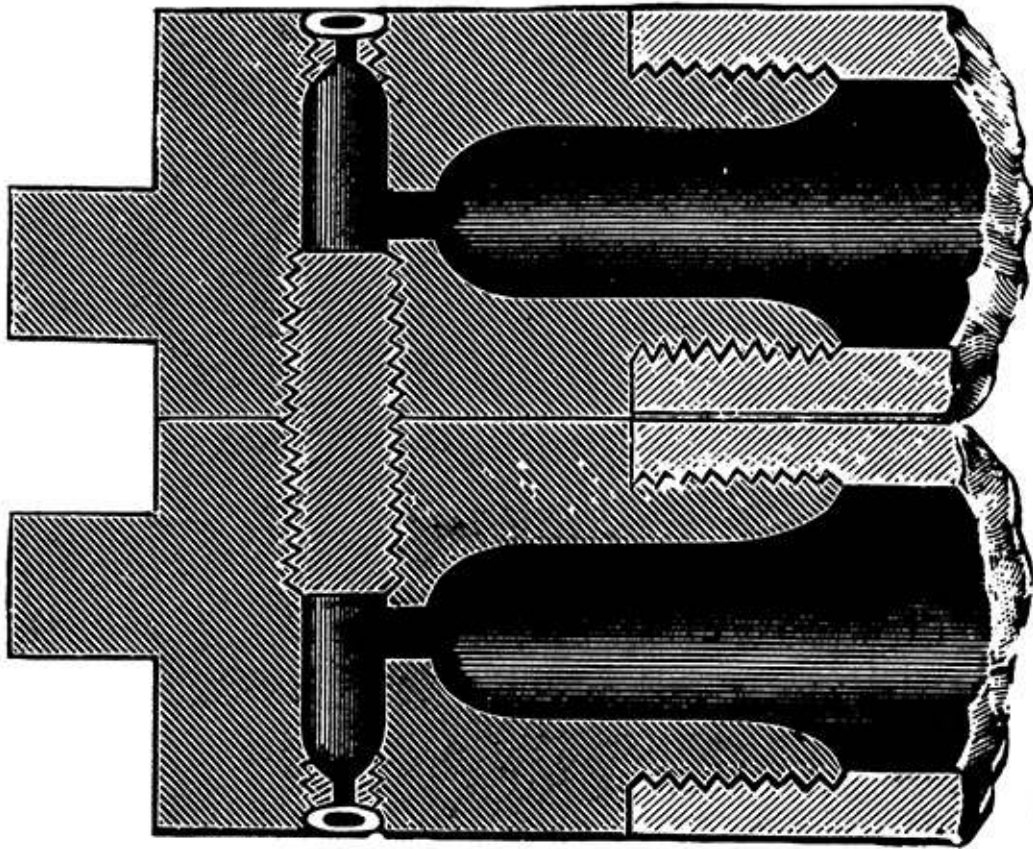
guns up to date with the latest inventions. Patents were ten a penny, and although many of the innovations were insignificant, three would have a major impact and lasting effect. The first was the discovery of how to form lead shot by dropping it from a tower. Story has it that in 1782, enterprising Bristol plumber William Watts was repairing a church roof. In those days, lead, because of its low cost and excellent malleability, was used in sheet form to repair roofs. These sheets were “welded” together with a kerosene blowtorch to produce a watertight seal. Watts, after finishing work for the day, climbed down from a church roof that he had been repairing. He noticed that some of the molten lead droplets had solidified on the way down and landed in a puddle of water. He was perplexed to find that many of these solidified molten droplets were nearly perfectly cylindrical. Luckily, Watts was blessed with a lively and inquiring mind. He was so much intrigued that he hardly slept that night. The next day, he returned to the church roof with two of his wife’s prized kitchen utensils, a kettle and a sieve. Watts heated some lead in the kettle and instructed his wife to pour the molten lead through the sieve. Lo and behold, the first dropped shot, as it came to be called, was produced. Rumor has it that Watts took out a patent on the process (patent no. 1347) and later sold the rights to this patent for the princely sum of ten thousand pounds. No doubt that was a lot of money in those days, but over the next four hundred years or so, no one has found a better way to produce lead shot, and it is still produced in “shot towers” like this today. I am inclined to think that Watts sold himself short on the deal.



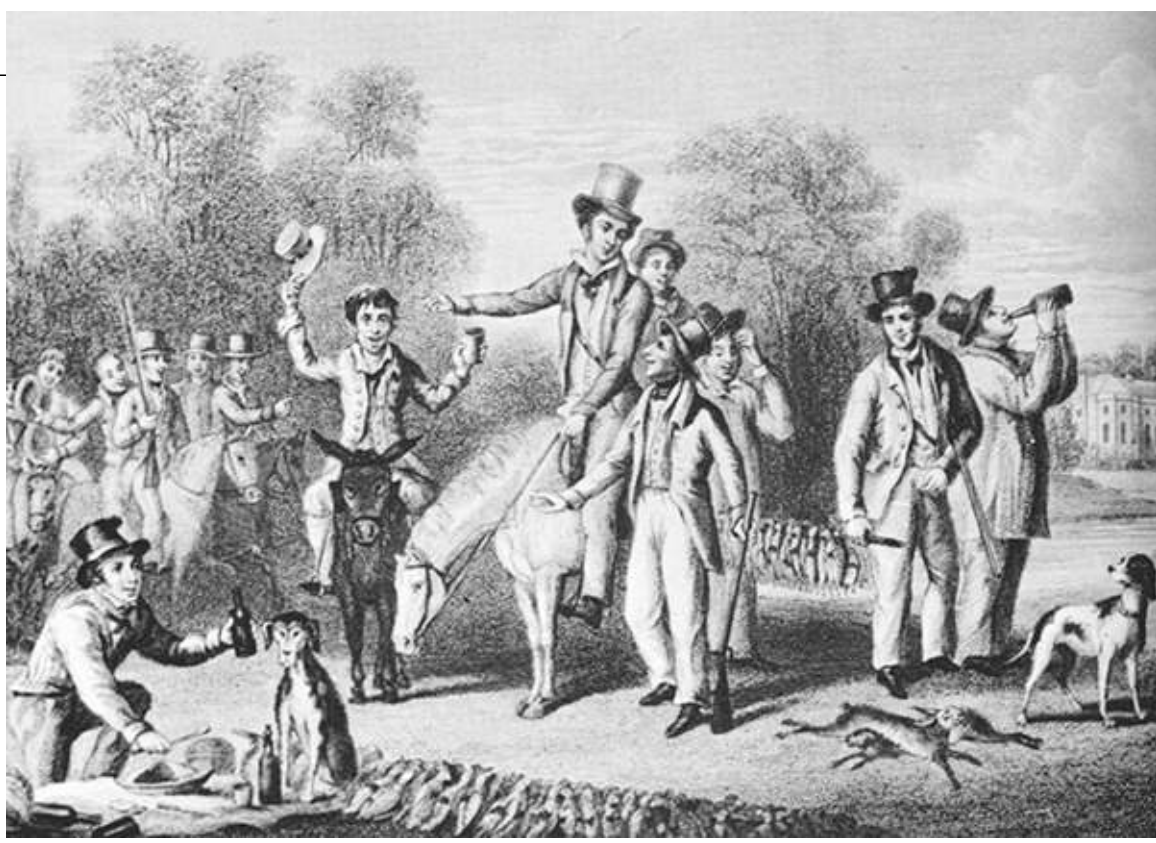
Gentlemen are shooting flying game from horseback, a pastime that was fashionable in the eighteenth century. Servants were employed to load the guns and retrieve the birds with dogs. Reproduction of an engraving from *The Gentleman's Recreation*, 1688.

The second important innovation was described in a patent issued in 1815 to Sir William Congreve for the standardization of gunpowder. Now the quality of the powder could be controlled to give more calculable efficiency.

The third innovation, and probably one of the most significant for the gun trade, was Henry Nock (1772–1804) patented breech that appeared in 1787. Until this invention, the powder charge had been ignited through the touchhole in the side of the barrel. As the flint ignited the primer in the flash pan, the main charge was ignited at the side, which gave the effect of an uneven, slow burn of main propellant. Nock's breech eliminated this; now the propellant powder burned quicker and more efficiently, and guns shot harder and quicker. More importantly, however, there was no need for long barrels to allow the explosive gas pressure to develop. It was now possible to reduce barrel length to about thirty inches, which gave a much more pointable, better-balanced weapon. The English craftsmen were quick to see the opportunity, and the result was the production of the double-barrel flintlock, a final triumph and the culmination of centuries of effort—the perfection of the flintlock. During the next two decades, prominent London gun-making houses; the Manton brothers, Joseph (1795–1853) and John (1780–1834); Durs Egg (1785–1834); and James Purdey (1784–1863) elevated the muzzleloader system, which had remained stagnant for almost two hundred years, to the new level. The game gun was about to evolve from a primitive weapon to the classic modern shotgun, with the elegance and graceful lines that we still appreciate today.



Henry Nock's patent breech resulted in a faster burn. As a result, the ignition time was considerably quicker, pressures were increased, and flintlock guns shot harder.



Joseph Manton and Colonel Peter Hawker partridge shooting at Longparish, 1827.

There were many prominent names in the gun-making industry at this time, but most people are in agreement that the Manton brothers' contribution to the art of gun making was incalculable. There were many other fine gun makers of the period, but there is no doubt that the two brothers were the masters. John Manton, the elder brother, set up on his own after working for one of the most celebrated double-gun makers of the era, John Twigg. John's younger brother Joseph was an apprentice to John until he left to start his own business in 1789. Joseph had an inventive mind, and his patented elevated rib had the effect of raising point of impact (relative to point of aim) so that the birds could remain in view as the trigger was pulled. Manton guns were elegant and stylish, the Rolls Royces of the gun trade, and within a few years, all the gun makers were producing similar double guns with only slight variations.

THE EVOLUTION OF PERCUSSION IGNITION

As the flintlock was reaching perfection, an alternative method of ignition was sneaking in the back door that would eventually make the flint obsolete. The Reverend Alexander John Forsyth, a church minister from Belhelvie in Aberdeenshire, Scotland, was perfecting the percussion ignition system. This system used a fulminate-based detonating charge that was exploded by a spring-loaded firing pin which was hit by the hammer as the trigger was pulled. Percussion ignition was fast and more reliable, and Forsyth's invention opened the floodgates for dozens of ingenious ways for gun makers to apply it. Detonating powder was used in caps, tubes, and small pellets (called pills), but the most popular form to emerge was a small, copper cup filled with a noncorrosive fulminate. These caps were placed over a small nozzle with a hole bored through it and called a nipple. The nipple was screwed into the breech of the gun, and as the hammer hit the cap, the fulminate exploded to ignite the main charge. The debate over the merits of the flint versus the new percussion system raged for years and was the source of heated controversy among the sportsmen of the early 1820s. Slowly but surely the percussion guns gained ground, and by 1830, the flintlock conceded defeat to the superiority of the

percussion weapon. One of the main reasons for this was the fact that the sport of pigeon trapshooting, where birds were released from box traps, was becoming highly competitive. This attracted many “professional” pigeon shooters, and now valuable prizes were an attraction, with large sums of money changing hands in wagers on the outcome of the event. The birds were released by pulling a cord of the signal from the shooter, and they had to be dispatched before they reached the boundary fence. Speed was now a critical factor, and since there was money at stake, this was no time for trivialities. The faster ignition time of the percussion gun was preferred, and the flintlock began to lose popularity. Many flintlocks were converted to percussion guns. One cheap and cheerful way of doing this was to simply screw a side plug into the touchhole and replace the cock with a percussion-type hammer, known as a hen-toed hammer. The next stage of the percussion era was the breechloader.

EARLY BREECHLOADERS

Gun makers had strived for many years to produce a weapon that could be loaded more efficiently than the muzzleloader, but they had always failed to find a way to successfully lock the barrel. Samuel Johannes Pauly, who was Swiss, produced and patented one of the first breechloaders in 1811. Inextricably caught up in the development of the breechloader was the necessity of a self-contained cartridge to go with it. Clement Pottet took out a patent on a self-contained cartridge in 1829. It was further developed by Paris gun maker Houllier in about 1850, and consisted of a paper-cased cartridge with a brass base. The cartridge was fired by a brass pin, which was struck by one of the hammers to fire the gun. The other end of the brass pin was embedded in an internal percussion cap.

The invention of the breechloader was an improvement, although not everyone was quick to accept it. The muzzleloader appeared to be more robust in construction, because the barrels were only open at one end, the other closed by a steel plug, which was screwed securely into the breech. It wasn't easy to put confidence in something loaded into a paper and brass cartridge, and then sealed in place in the breech by a method that appeared to be flimsy by comparison. There were many skeptics, and the breechloader was not an instant success by any means.

One man who had a huge influence on the development of the sporting shotgun was Casimir Lefauchaux. At the Great Exhibition of London in 1851, he introduced a breechloader with a drop-down barrel that used pin-fire ammunition. The idea appealed to London gun maker Joseph Lang, who was quick to see the potential of this latest development and copied the idea with his own version. Other gun makers were soon jumping on the bandwagon, each applying his own personal ingenuity and imagination to make subtle improvements. James Purdey, Robert Adams, and John Dickson and Son, Edinburgh, Scotland, all produced their own variants. One patented by James Dougall of Glasgow was known as the lock-fast action. The principle was the simple, sliding round bolt, which engaged into a hole in the back of the action to lock it.

The only drawback of these drop-down barrel guns was the method of closing the action. Although it was reasonably strong and efficient, it was a manual operation, by means of either a side- or underlever. What was needed was a snap action that closed with a spring-loaded bolt, and in 1851 Westley Richards produced the first. Around the same time, George Daw introduced to England a cartridge that was in effect a crude version of the cartridge that we know today. It was invented by Clement Pottet of Paris and was an ideal complement to these new drop-down, snap-action guns. Because the pin-fire cartridge had disadvantages. Loaded with highly unstable black powder, a sudden knock on one of the pins could transform a pocketful into an incendiary device—certainly not recommended for the successful pheasant hunt.

But still this new cartridge was a big improvement. Guns were designed with the firing pin fitted through the standing breech, but there was a problem in normal use. As the firing pins struck the primer, they were held in place against the cartridge with the pressure of the mainspring, preventing the gun from opening. In 1866, Thomas Stanton invented the rebounding lock, which did exactly what the name suggests. With Stanton's invention, the hammers rebounded as the gun was fired, allowing the strikers to return to half cock so that they were flush or behind the face of the standing breech. This action also reduced the possibility of the cartridges being detonated as the gun was closed, which before was definitely possible.

The hammers were neater on these guns, and the early snap actions were steadily improved until the introduction of the Purdey bolt in about 1863. This locking system, which was opened and closed by the top lever, was a significant breakthrough. The strength of this mechanism was unsurpassed, and it became the dominant lock for both double-barreled shotguns and rifles. Even today, most top-lever side-by-side shotguns are secured by means of a Purdey bolt. Elegant hammer guns were in production at this time by many famous gun makers, among them Greener, Grant, Holland & Holland, Rigby, and others who are all still in existence today.

The first hammerless gun, which cocked the action by opening, was the Anson & Deeley, patented in 1875. W. Anson and J. Deeley both worked for the Birmingham company of Westley Richards. This was an ingenious mechanism. The components of the lock were simplified to such an extent that there were only three main components. The result was legendary reliability, and the revolutionary action they developed is still used today in some form or other by many English, Spanish, Italian, German, and American gun manufacturers. Parker Brothers made their first shotgun with an Anson & Deeley action in 1879. A hammerless version was available by 1889.

Perhaps the only other true shotgun we should consider is the over-and-under. Early attempts to build a shotgun with this principle were unsuccessful in Britain for two reasons. First, the barrels were stacked above one another; conventional locking systems available at the time produced a bulky design of action. Second, this large and somewhat cumbersome action lacked the grace and lines of the traditional side-by-side, which until then had been a trademark of the British manufacturers. Two manufacturers produced an alternative locking mechanism to overcome this. These were Thomas Boss, who patented the design in 1909, and James Woodward, who followed with his in 1911. But there is no doubt that the most famous over-and-under shotgun is the Browning, the brainchild of John Moses Browning. Unfortunately, he never really saw the full potential of his invention, as the gun went into production at the same time as the inventor's death, in 1926. Commercially, it is the most popular over-and-under, and the design, like many British designs, is still widely copied today.

sample content of Successful Shotgunning: How to Build Skill in the Field and Take More Birds in Competition

- [download online The New Abs Diet for Women: The 6-Week Plan to Flatten Your Stomach and Keep You Lean for Life](#)
- [The Gun Digest Book of Long-Range Shooting pdf](#)
- [Pushback: How Smart Women Ask--and Stand Up--for What They Want book](#)
- [Battle Lines: Eyewitness Accounts from Canada's Military History pdf](#)
- [**Automating System Administration with Perl: Tools to Make You More Efficient pdf, azw \(kindle\), epub, doc, mobi**](#)

- <http://rodrigocaporal.com/library/The-New-Abs-Diet-for-Women--The-6-Week-Plan-to-Flatten-Your-Stomach-and-Keep-You-Lean-for-Life.pdf>
- <http://thermco.pl/library/The-Tao-of-Health--Sex--and-Longevity--A-Modern-Practical-Guide-to-the-Ancient-Way.pdf>
- <http://dadhoc.com/lib/Pushback--How-Smart-Women-Ask--and-Stand-Up--for-What-They-Want.pdf>
- <http://ramazotti.ru/library/Macroshift--Navigating-the-Transformation-to-a-Sustainable-World.pdf>
- <http://jaythebody.com/freebooks/Rousseau--The-Routledge-Philosophers-.pdf>