Evolution of the English Double Rifle (in brief):
1. 4 bore I. Hollis & Son, London, single barrel gun, used by game scouts in Botswana.
2. Double Rifle for .50 caliber belted ball by John Hayton, Grannistown, S.A.
3. 12 bore Double Rifle by Joseph Lang of London.
4. .500/.450 Double Rifle by I. Hollis & Sons, London.

The English Double Rifle

M.D. (Chip) Beckford

Reload, reload; it seemed like hours as I emptied the shells out of my rifle and slammed two 450/400 nitro express cartridges into the breech. I could see the muzzles of the professional's double rifle coming up, and said "I've got him" and fired the third shot. As I recovered from the recoil and aimed again, the Cape Buffalo was falling head over heels into the long grass.

This was the trip of a lifetime, and I had just shot my first Cape Buffalo with my English Double Rifle,[1] a Hellis 450/400-3 1/4" nitro express.

The English Double Rifle is one of the guns that when you see one, conjures up images of Africa and dangerous game. There is a romance associated with the Double Rifle of the "Great White Hunter" saving his client's life with a well-placed shot at a matter of feet.

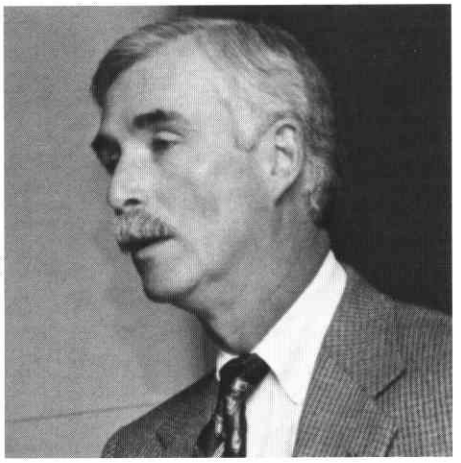
The English Double Rifle has spanned the last one hundred and fifty years and has evolved from the percussion muzzle loading era of the 1840s to the mammoth .700 nitro express developed in 1989. this has been a long and romantic period and the "era" is not dead!

Today there are probably more Doubles making the trip to the African continent than there have been since before the Second World War. This is due to the availability of components with which virtually any caliber can be loaded, and there is even a factory loading of the .470 Nitro Express by the Federal Cartridge Company. This resurgence is due primarily to the ease and cost of travel today, and the tremendous interest in African hunting. It is cheaper in some cases to hunt in Africa than it is to hunt in some parts of North America.

The purpose of my talk today is to discuss the evolution of the English Double Rifle, so, as the English say, let's have at it!

The Double Rifle was developed to fill a need. Simply put there was a need for a rapid and sure second shot for the hunter of big and often dangerous African and Indian game.

During the middle 1800s the opening up of Africa and India to hunting was evolving. English Officers and adventurers were coming to Africa and India to explore and to hunt. Many were on extended leaves from active duty and were in search of excitement as well as trophies. Their exploits are legendary, and quite a few wrote about



their trips and experiences. It is from these accounts that we see the need of the hunter for fast, reliable firearms capable of stopping big and dangerous game animals.

The firearms used for hunting in the mid 1800s were for the most part percussion muzzle loading smoothbores of fairly large caliber. Most of their guns fired a big heavy round ball from a single barrel propelled by a very heavy powder charge. Ignited by means of a small percussion cap, this was not always the most reliable ignition, and this could be quite fatal at the wrong moment. Samuel Baker carried his "baby" (as it was nicknamed), a 4 bore made by Mr. Holland of Bond Street, which fired a 1/4 pound ball propelled by 12 drams of powder. Baker credited this gun with the wrecking of his nervous system, as well as launching him into the air when it was accidentally double charged by his gun bearer! There was a need for a better system!

The English gun trade recognized this need and started building double barreled guns, similar to their shotguns, capable of firing a heavy round ball and charge. These guns provided a second shot, and, more importantly, a shot should the first barrel not fire at all. They had created two guns in one, and in essence two separate firing mechanisms in one gun. A more reliable firearm was created and this afforded more protection for the hunter.

While their big heavy doubles provided more firepower than the single barreled gun, there was still the problem of accuracy and stopping power. In style these early guns tended to follow the basic pattern of all sporting rifles during the percussion era in England. More often than not they did not have a rear sight, and many were fit-

1. "Double Rifle" and "Double" are capitalized throughout this work out of respect for their status in the world of firearms.

ted with a swivel ramrod to facilitate loading on horseback. They were half stock for the most part, and were checkered at the wrist, with a trigger guard that incorporated a scroll or spur to act as a pistol grip.

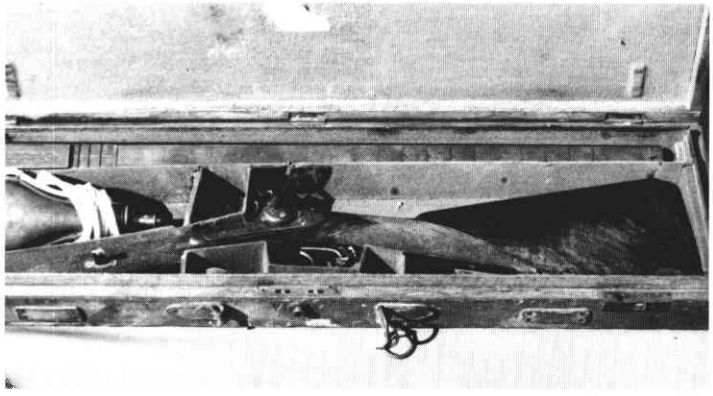
As the English Double guns became more popular through the percussion era, they continued to follow this same basic pattern, with some exceptions. The inclusion of large patch boxes, capable of holding more accessories, safety bolts for the locks and provisions for a sling were incorporated into these guns. These "Doubles" carried by gentleman hunters and sportsmen tended to be of the "Best" quality, and they represented the best of the gun maker's art.

While these big double barreled guns were a vast improvement in fire power over the single barreled gun, there was still that problem of power and accuracy. Rifled bores were not new and had been used for big, single barreled muzzle loaders before, but they were slower to load and that was a disadvantage. They were more accurate and had more penetrating power with elongated projectile than a round ball fired from a smoothbore, but they were slower to reload.

The gun makers started making two barreled rifled guns to take advantage of quick second shot and have increased accuracy and power, but they were more difficult to build. While it is fairly simple to sight a single barreled rifle, it is quite difficult to sight a double rifle to shoot both barrels to the same point with one set of sights! This requires a skilled maker and considerable time and expense. First the barrels were forged separately and bored and rifled. Next they were fitted and contoured so that they could be joined at the breech and muzzle. After being joined at the breech, the barrels were connected at the muzzle using a soldered wedge. This wedge was then used to "regulate" the barrels and change the impact of the bullets from each barrel. After the barrels were initially joined and the rifle stocked (often in the rough) it was taken to the shooting butts (range) to be fired. The rifle was fired using a specific load and it was noted where each barrel shot. The rifle was then taken back to the shop and the wedge heated and moved to bring the shots together. This process, needless to say, added a great amount of time and expense to the manufacturing process. This basic process is still used today, and is the only acceptable method to regulate a double rifle. Once acceptable accuracy was obtained, and the gun was regulated to the specified range, the rest of the sight leaves were cut using the charted trajectory of the charge. Some doubles had multiple sight leaves for various ranges, according to the customer's or maker's wishes. In practice, however, rarely was more than the standing leaf sight used in the field.

Many of the early heavy caliber muzzleloading Doubles were rifled in a two groove rifling pattern to help prevent the bullet from being stripped due to the large powder charges that were used. Samuel Baker, of African fame favored a ten bore two groove double charged with ten drams of powder and a belted ball. This rifle weighed fifteen pounds and was used on heavy game, usually at ranges under fifty yards. While these rifles were a vast improvement over the single barreled gun, they did have their shortcomings. Bad caps, bad powder, or the possibility of getting a bullet stuck while ramming it home, could and did prove worrisome, to say the least, when facing dangerous game. This coupled with the thick white smoke that was created upon firing made hunting, even with a double, a risky proposition!

William Cotton Oswell, another early African hunter, also favored a ten bore double, his favorite made by Purdey. Oswell hunted on horseback, a completely different manner from Baker, who hunted only on foot. He used pre-made paper cartridges to pursue elephant, lion, rhino and other game on horseback, usually chasing his quarry down, dismounting only when he had to. With these pre-made cartridges, containing a waxed wad, to help with the fouling, his black powder muzzle loader



Cased .50 caliber John Hayton Double Rifle with mould and flask in original leather & wood case.

Close up of the locks of the Hayton rifle which uses a .50 caliber belted ball.

could be easily loaded. But even with these cartridges, the uncertainty of the powder and caps made the contest between man and beast a more equal affair. By the late 1850s, gunmakers and sportsmen alike believed that the muzzleloading percussion Double Rifle had been perfected. Some had even built a measuring stick into the rib to measure the trophies. But within a short period of time they were to see even greater innovation and activity, along with more controversy, than they had seen before. This was brought about by the development of the breech-loading gun!

It was during the Great Exhibition of 1851 in London that Joseph Lang realized the potential of the breech loader. Lang, a London gunsmith, observed the work of Lefaucheux of Paris, who had developed a pinfire ignition shotgun with drop-down barrels, similar to the shotguns of today. The breech loading idea was not new, having been experimented with since the early Seventeenth Century, but Lefaucheux's shotgun featured a cartridge containing its own internally primed cap which was ignited by the fall of the hammer pushing a pin into a percussion cap within the cartridge. This certainly was new and had potential!

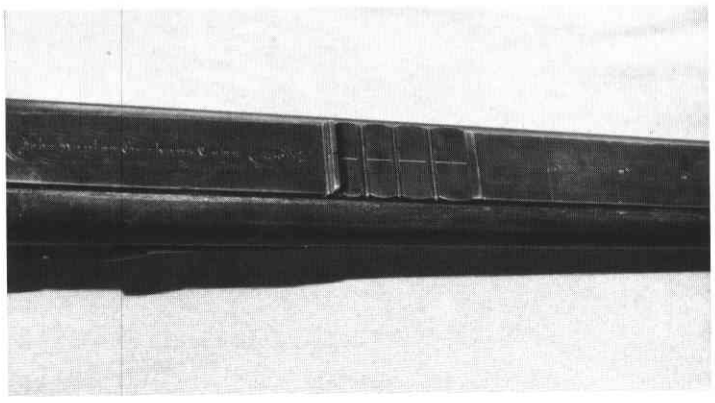
Lang quickly developed his own pinfire gun and other English gun makers were quick to follow. Other developments quickly followed with the center-fire cartridge, patented by Charles Lancaster, and a gun fitted with extractors to push out the fired cartridges. These early breech-loaders were slightly heavier than their muzzle-loading counterparts and they could fire the heavier charges required. The introduction of the breech-loader started a great controversy, and the merits of both systems were debated, often bitterly. Early comparisons favored the muzzleloader, but the tide was turning. The breech-loader was heavier, but its ease of loading and safety were winning over English hunters and sportsmen. The muzzle-loader, however, died hard, and many continued to be manufactured well into the breech-loading era.

By the late 1860s the muzzle-loading era was ebbing, however, and the adoption by the British Army in 1867 of the breech-loading Snider action in .577 caliber certainly helped this along. Double Rifles in this caliber began to be manufactured and used to hunt big game, since Officers on leave had access to military ammunition, as well as the time to hunt. Samuel Baker had Holland and Holland build the first .577 Double Rifle made by them for him and it became his favorite rifle.

By the 1870s 4, 8, 10 and 12 bore breech-loading cartridge Double Rifles were also available. These hammer Doubles used under-lever locking systems for the most part. The under-lever system was extremely strong and was used well into the nitro powder era, and in fact the first Jeffery .600 Nitro used this system. Subsequently other calibers began to appear, the .500 and .450 black powder expresses being the most popular. They were termed "expresses" because they were faster (like the new express trains of the time), driving lighter bullets at much higher speeds with a heavy black powder charge.

These cartridge arms still retained the outside hammers of their percussion predecessors for the most part, and hammer guns would be made virtually to the turn of the Century, even though the hammerless gun was patented in the early 1870s. While the hammer cartridge Double Rifle had made things easier for the hunter, manufacturers strove toward making other new improvements. Murcott's system, the first hammerless action, and Anson and Deeley's patent of 1875, brought to the market by Westley Richards, was an action known for its strength and simplicity. These improvements, coupled with the top-lever invented by James Purdey, were known for their strength, and are the most common box lock action used in the world to this day.

This era of great manufacturing innovation and invention saw the foundation of the reputation of firms such as Holland & Holland, Rigby, Jeffery and Co., Greener, W. Richards (later Westley Richards), Purdey, J. Wilkes and Manton of London, and Henry and Frazer of



Top of the barrels of the Hayton rifle, showing 1 standing and 4 folding leaves and measuring rule on top of the barrel.

Patchbox of the Hayton rifle, showing the lion engraved on it.

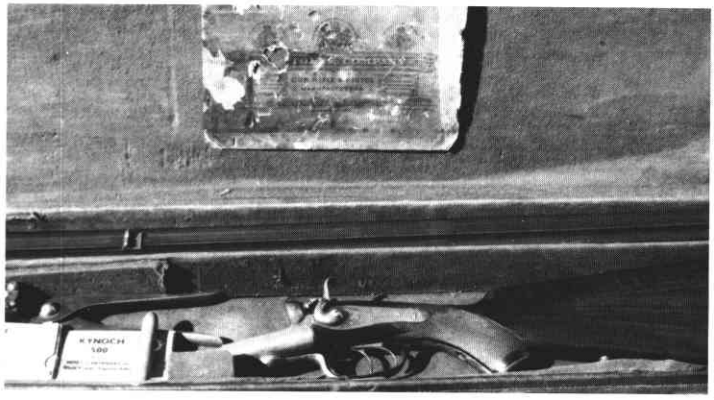
Scotland and Gibbs of Bristol. Each of these makers was touting their innovations and improvements as the best, hoping to sell the most guns. There were even field trials held to determine the best! *The Field* trials, named after the popular country gentleman's magazine of that name, held in 1883, helped to establish Holland & Holland as one of the best. H&H won all categories but two in the Double Rifle category!

Just as there were fans of the individual rifle makers, there were proponents of the many new cartridges that were being developed. Even though the new "express" cartridges were faster and the rifles lighter, they did have some problems in the stopping power department. These express cartridges were very popular and worked well on light game, but did not provide the penetration needed in all cases for large game. In 1886 another innovation was introduced to help solve this problem, the Paradox, and the study of the Double Rifle would not be complete without mentioning it. The Paradox was basically a shotgun with the last inch or so of the bore rifled. Based on Col. Fosbery's patent, No. 7568 of 1885, the Paradox was lighter than the fully rifled Double and could fire shot or a ball! Other companies quickly followed with their own versions, which were commonly found in 8, 10, 12, 16, 20 and 28 bore. The popularity of this ball and shotgun lasted until the First World War, and then died out.

By the early 1890s the Double Rifle was in its final development, even though some earlier traits died hard. The reluctance of some hunters to change to a hammerless action led to the introduction of side lock cocking indicators to show that the rifle was indeed cocked. But for the most part the rifles being manufactured were hammerless with steel barrels, and cocked when the action was opened. New cartridges continued to be developed, as the makers vied to promote the sale of their products. The transition to smokeless powders in the 1890s led to the development of many new cartridges, most directly from their black powder ancestors. Eleven large bore cartridges from the .450-3¼" introduced in 1898 (as the first big double smokeless cartridge) to the .600 Nitro were introduced before the First World War. Many of these were identical in ballistics, and most were the direct result of the banning of the .450 caliber (military) bullet for use in India and the Sudan. The idea for the ban was to keep .450 caliber bullets out of the hands of the rebels, many of which were armed with .577/.450 Martini Henry Rifles. English officials thought that the "rebels" would use these .45 caliber bullets in their Martini Henry rifles. Some of these new cartridges were released directly to the trade, such as the .500/.465 H&H, Jeffery's .475 No.2, Westley Richards' .476, and what became the most popular of all, the .470 by Joseph Lang.

The golden age of African and Indian hunting had arrived. The English Double Rifle had become the accepted weapon to use against dangerous game anywhere. Not only did the British sportsman go to hunt in Africa, rich Americans and Europeans went as well. This was also the era of the professional elephant hunter, or poacher, depending on which country he was in, or if he had a license. The relatively easy access to Africa, and ease of travel once you got there, made it easy to go on Safari. Double Rifles were in great demand, and side-locks and box-locks were made by the hundreds to fill the need. While the "best" side-locks were usually made completely by the "name" gun makers, box-lock rifles were often made up as barreled actions and sold in the "white" to another maker who finished the gun and marked it with his name. There was also a joint effort by the English gun makers to provide good serviceable, yet plain, rifles for the Army & Navy Cooperative Store. The Cooperative was a sort of "Sears & Roebuck" venture to provide the necessities for military personnel being posted to Africa or India. Army & Navy Doubles could have been built by any of the famous makers, and would represent a quality rifle at a lesser cost than the maker's "best" named guns.

Even ex-Presidents went to Africa. Theodore



John Manton & Co. case and gun, caliber .500 – 3 inch Black Powder Express, with mould and cartridges.

The label in the Manton & Co. case.

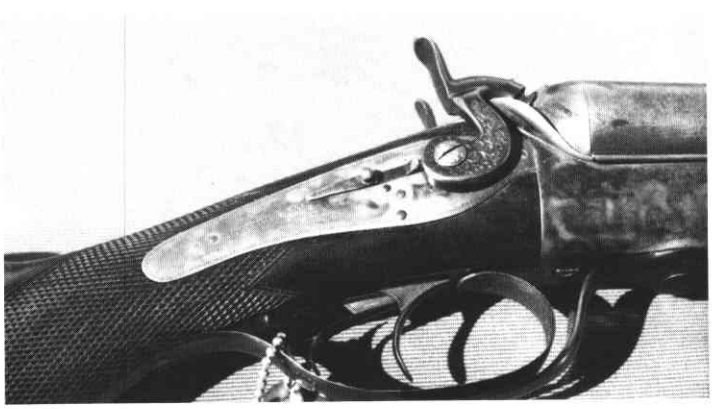
Roosevelt chose to go on an extended safari with his son Kermit as a retirement present to himself in 1909. Roosevelt took a Holland & Holland Double .500/.450 Nitro Express that was given to him by Edward North Buxton, a noted English hunter. Roosevelt used this rifle, among others, on this safari to take a complete bag of animals. This same rifle was to make another trip to Africa almost eighty years later with Roosevelt's grandson, and was featured in the movie *In The Blood.* Roosevelt subsequently wrote the book *African Game Trails*, which recounted his trip, and was almost required reading by any budding African hunter.

The outbreak of the First World War in Africa saw man hunting man instead of animals, and marked the end of the "professional" game hunters. These professionals had persued game for profit, and now countries tried to limit the number of animals taken to prevent the extinction of game. The advance of civilization, widespread poaching, and the increase of cattle were all taking their toll or were just driving the game off! The 1920s and 1930s were to become the years of the "Great White Hunter" made famous by Hollywood and the writings of Hemingway and Ruark, both of which took extended safaris. The Double Rifle was glorified in pictures and in print! Much of its romance stems from these pictures, and continues even today with films like *Out Of Africa*, which featured Robert Redford using a Double Rifle.

But at the same time the depression was also having an effect. Fewer people had the resources to go to Africa, much less buy an expensive Double Rifle to take on the trip. Many of the small shops closed their doors, never to re-open. The start of the Second World War caught the English largely unprepared, and took the major efforts of the English gun trade for the duration of the war. Firms like Holland & Holland turned their efforts to producing military rifles instead of sporting guns. The years following the war were not much better: supplies of wood, and steel for building guns, and cartridges were in short supply. The colonial era was ending, and with it the demand for big bore Double Rifles was declining. The introduction of the .458 magnum in the Winchester Model 70 in 1958 was a further factor, especially since the price of the Model 70 was considerably less, with emphasis on the considerable! At the same time Kynoch, due to falling demand, was discontinuing most of their big Nitro Express rounds. By the late 1960s Kynoch was out of the ammunition business all together. It was very difficult to feed a Double Rifle, especially at the very prohibitive cost of ammunition.

The English Double Rifle was almost dead: cheaper big bore rifles could be had, ammunition for the Double Rifle was expensive, when you could find it, and it was becoming unreliable due to age. Largely due to all of these factors many of the Doubles were sold to collectors or put up into racks. Just when the end was near, the double got a new lease on life: bullets and dies for some calibers were available on a custom basis, but brass was hard to come by. Then Jim Bell of Chicago got into the business of manufacturing new brass for these fine old guns. True, Holland & Holland and others had manufactured Doubles in .458 Winchester, but they did not like the rimless case and there were a lot more old guns out there requiring the old cartridges. Bell's timely decision to start manufacturing brass certainly rekindled the interest in shooting these fine old English Doubles.

With the infusion of new brass cartridges into the market, the Double Rifle once again became a more viable alternative. The romance of the Double, and maybe the nostalgia of a "more romantic" past added to the allure. You could shoot all of these fine guns, and they still performed the way they were intended to, they did the job! Suddenly more of the old Doubles were taking the field again. Not only did they hit as hard as the "big bore" modern bolt guns, they were faster with the second shot, they did what they were designed for, they provided a fast and sure SECOND SHOT! The Double had returned. Anyone could buy a bolt action .458 or .375 but the



Joseph Lang, London, 12 bore Double Rifle with back action locks with safety bolts.

Locks of an I. Hollis & Sons, London, Double Rifle, caliber .500/.450 Nitro Express, shown with its cartridge.

Double still was a viable and more romantic alternative, and they performed well.

From the technical side, there had not been a lot of new innovation since the 1940s. There had not been any new cartridges developed when the request to build a .600 Nitro Express was forwarded to Holland & Holland. H&H refused to consider building another .600 Nitro, since they had manufactured and sold their last .600 in 1975. They would not manufacture another, but they would do a bigger caliber if the customer wanted: thus the .700 Nitro was born! The .700 Nitro as the first "new" chambering/loading since the .458 Winchester Doubles manufacture in the 1950s. It was simply an enlarged version of the .600 Nitro introduced in the early 1900s; firing a 1000 grain bullet it was the biggest that had come along. Holland & Holland contracted to build five rifles, initially, and other manufacturers have made .700 Nitros as well. Pictured here is the #4 .700 Nitro manufactured by Holland & Holland and a J. Wilkes of London, Double .700 H&H manufactured in 1993.

Today the English Double Rifle is doing relatively well. Thanks to the exposure that it has received in the movies, and in the written arena, and the ease of hunting in Africa, it is still an alternative for the "Big Game" Hunter. Since you can reload virtually all of the known calibers, and can buy the .470 Nitro in many gun shops, the Double is a very viable firearm to use. Will it ever be as popular as it has been? Probably not, but there are still good buys out there in the used gun market. The English Double is not cheap, and since the resurgence of reloading components, the prices are on the rise. But the English Double Rifle is more than just a gun: it is an investment, and it still provides the fastest two shots available. The safety factor, a secure second shot, is what started the whole concept, reliability and that second shot! The form and appearance may have changed in the last 150 years, but the basic reliability and function has not! The English Rifle is 150 years old and still going!

What does the future hold? Is there an .800 Nitro in the future? Heaven knows, but Double Rifles will continue to be carried in Africa. The romance is still there, the lure of Africa is as much a feeling as reality, and the feeling (sic) of carrying one of these big English Double Rifles in the African bush in pursuit of dangerous game is a feeling that is hard to describe.

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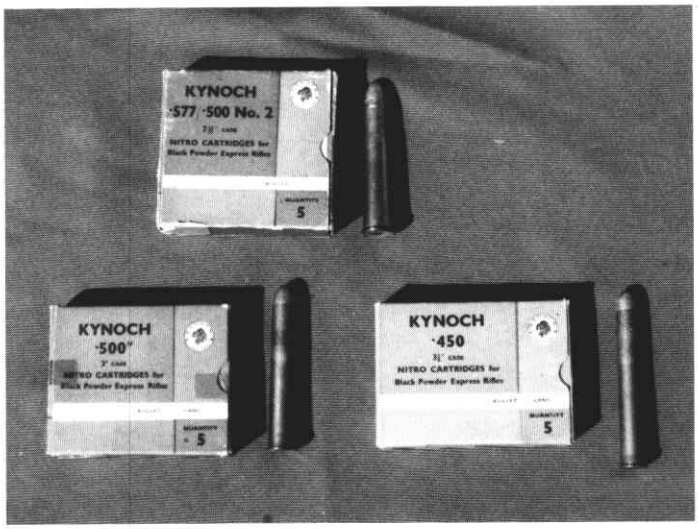
Cased Charles Hollis .450-.400 – 3 1/2" Nitro Express. Used by the author in Botswana in 1989 to take a record cape buffalo.

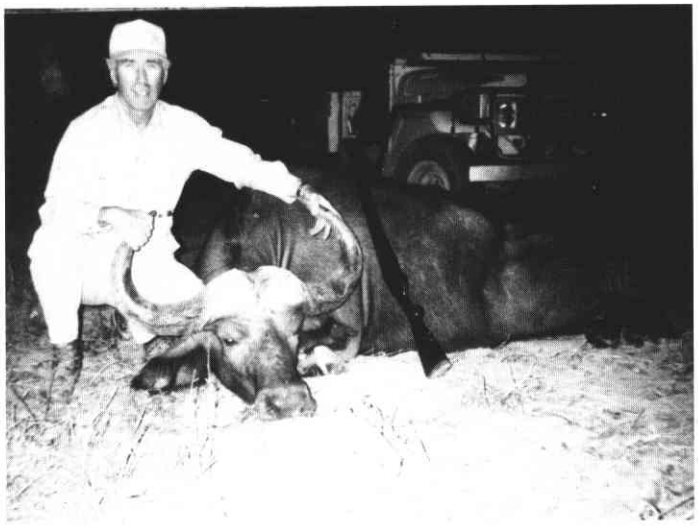
Cased I. Hollis & Sons, London, .500-.450 3 1/4" Nitro Express rifle.



Modern Nitro Express cartridges for black powder guns. Top: .577/500 No. 2; bottom left, .500 3 inch; bottom right, .450 – 3 1/2".

Cape buffalo shot with .450-.400 3 1/2" Nitro Express by the author in Botswana, July, 1989. Scored 101 points in Record Book.

An assortment of double rifle cartridges.



The author with a cape buffalo shot with Purdey .470 Nitro in Zimbabwe in 1992.