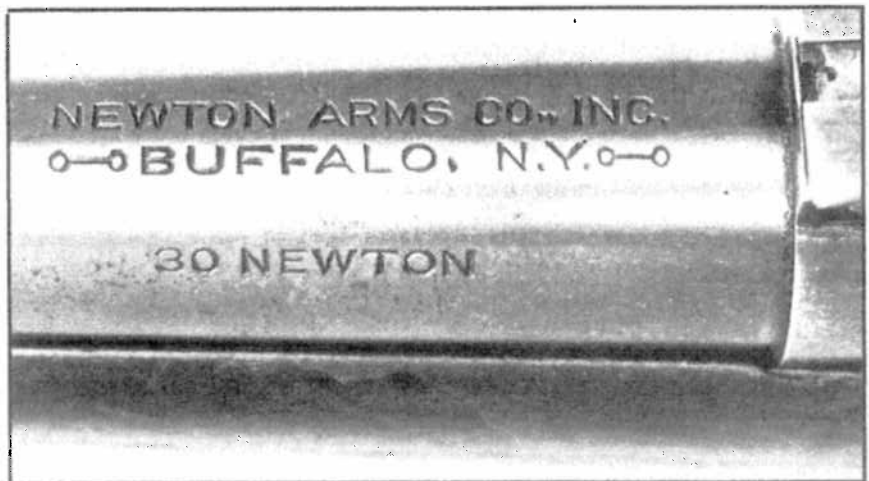
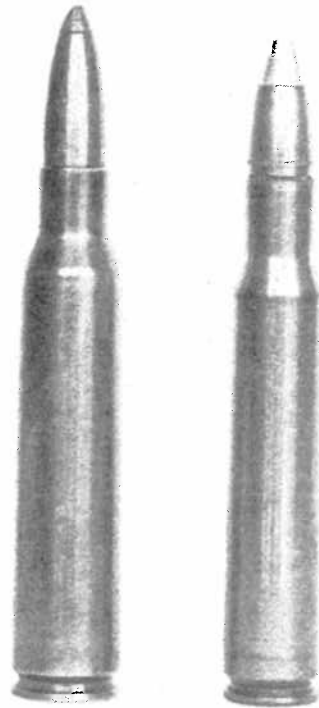


NEWTON'S FIRST RIFLE . . .

*tomorrow's
designs
yesterday*

The Newton rifle in 30 Newton,
a rifle that never approached its
market potential.

A 30 Newton (left) compared to the familiar 30-06.
The Newton has a head diameter of .523-inch, but no belted head.



Original, first make Newtons bore the Buffalo, N.Y. address. Later models carried different addresses. The symbol at right and left of the address indicates segmental rifling.

IN APRIL of 1916 an incredible arms designer, named Charles Newton, brought his first rifle onto the American market. It was a rifle years ahead of its time both in design and performance. As well, it was a work of beauty featuring excellent craftsmanship, clean lines, and compact construction. It was, indeed, a rifleman's rifle.

Newton broke ground in several areas of firearms development. Many of his design features went on to be incorporated in modern-day rifles. Yet, strange as it may seem, other features that would be welcomed by today's hunter-shooter have never been followed up on and remain shelved in some patent office. Still, the contribution of Charles Newton remains considerable, and the story of his first rifle must be told.

The Newton scored several firsts. The bolt was designed like a 1910 Ross; it had interrupted-thread-type locking lugs. This gave a bolt with seven locking surfaces which provided greater locking strength than any Mauser. The Newton bolt also sported two rear locking lugs that provided reserve locking power should the forward lugs give way. Other rifles, like the Mauser and the Springfield, had only one additional safety lug. As a fine point in the design these lugs were positioned to be in line with the forward interrupted lugs. This eliminated the elevated receiver bridge common to the British Enfield and the U.S. Springfield, and produced a receiver profile much lower than other rifles of the day.

Another outstanding feature of the Newton was the safety. Many riflemen tend to think that Mauser or Winchester innovated the three-position safety for sporting rifles, but it was really Newton's first rifle that brought the design to prominence. The safety was placed on the right-hand side at the rear of the bolt where it was easily accessible. It was also, unlike the Mauser, silent to use, and moved from position to position with little finger effort. The safety locked the bolt and blocked the striker. The bolt handle could also be rotated freely when the rifle was cocked, safety on.

In all, Newton produced a very compact rifle. It was one of the first bolt-action rifles to have a flat-topped receiver. The low profile meant that the receiver sat deep in the stock making sighting very easy and causing the hunter to place his cheek firmly against the comb of the stock. The rifle was quick to line up on target.

Other features included a one-piece firing pin that enhanced lock time and was easier to maintain. At the time, no other American-made bolt rifle offered this feature. The unit constructed pin also reduced the potential for the kinds of firing pin breakages possible in the Springfield. It was Newton's goal to eliminate that nuisance from a sporting rifle.

Cuts were milled into the top of the receiver to accept stripper clips. Although not many of the calibers were fitted with stripper clips, Newton liked the idea of a powerful, fast-loading arm. Few—if any—American

sporting rifles—not rifles converted from military receivers, such as the Model 30 Remington—carried this feature, either at that time or presently. While the feature's value to the sport hunter might be debated, it is still useful and could be readily incorporated into most of today's sporting rifles.

Newton showed his true genius when he designed his hinged floorplate. It functions like a wrench designed to loosen the barreled action from the stock. Once the floorplate is dropped down, it may be rotated until it releases the front action screw. Then the barrel may be gently lifted out of the stock, just ahead of the fore-end tip. That operation, performed with relative ease, left the rifle neatly separated into two pieces that could easily be stored or transported.

Joining the stock and barreled action combination was just the reverse process. In order to overcome the proverbial problem of loose fit between stock and receiver, common to take-down rifles, Newton designed the forward action screw to be turned into the action. Moving the screw deeper into the action effectively changed the pitch of the exposed thread. The floorplate could then be tightened against this and any slack due to wear would be taken up.

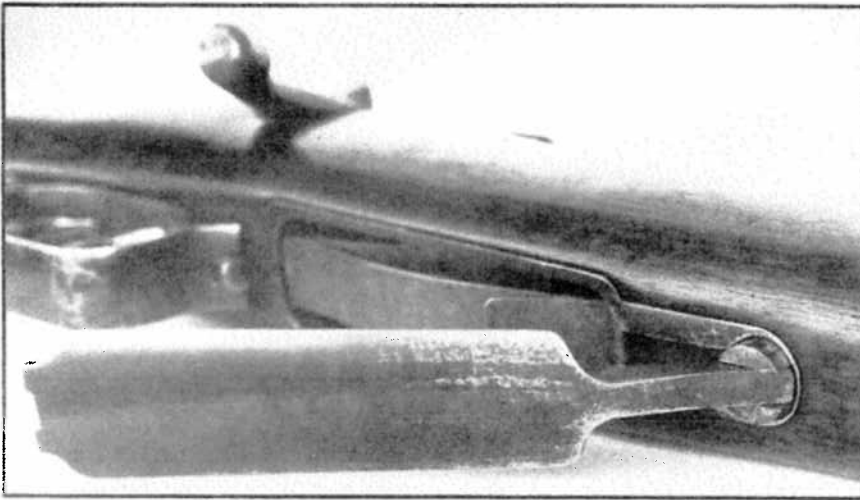
The rear tang was split and also held a screw that could be turned into the stock. This took up any rear slack. As well, the forward end of the tang was angled to allow a lip on the rear of the action to fit snugly under the tang. This takedown feature was efficient and accuracy was maintained. Why this system has never been copied by modern-day riflemiths is just beyond me. Strange things happen in this world.

A final feature of the first Newton was its set trigger. Both triggers were a full 1/8-inch thick along their entire length giving the shooter good trigger feel. As well, there was no trigger creep and the pull was sure and positive. Early Newtons had both triggers facing the same direction. The rear-most set the forward trigger; as little as 2 pounds pressure would send the firing pin home. Using the front trigger alone, pull was around 8 to 9 pounds. Set triggers have never been popular with North American hunters because of the extra time needed to complete firing. However, Newton saw the obvious advantages, especially when shooting prone at extended ranges, and set triggers continued to characterize his rifles throughout development.

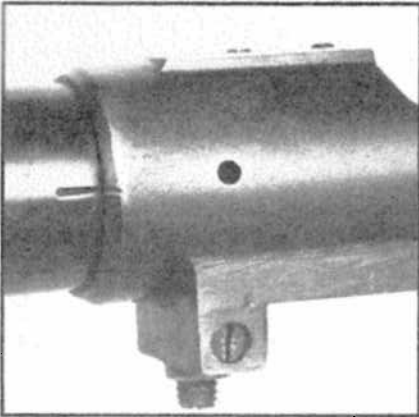
By WILF E. PYLE



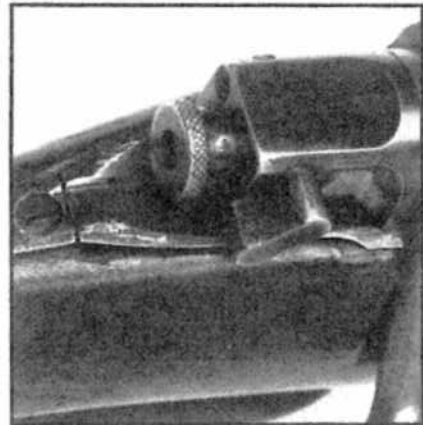
Western sold the original 30 Newton loadings in 180-grain open point, expanding, boat-tail Lubaloy bullets.



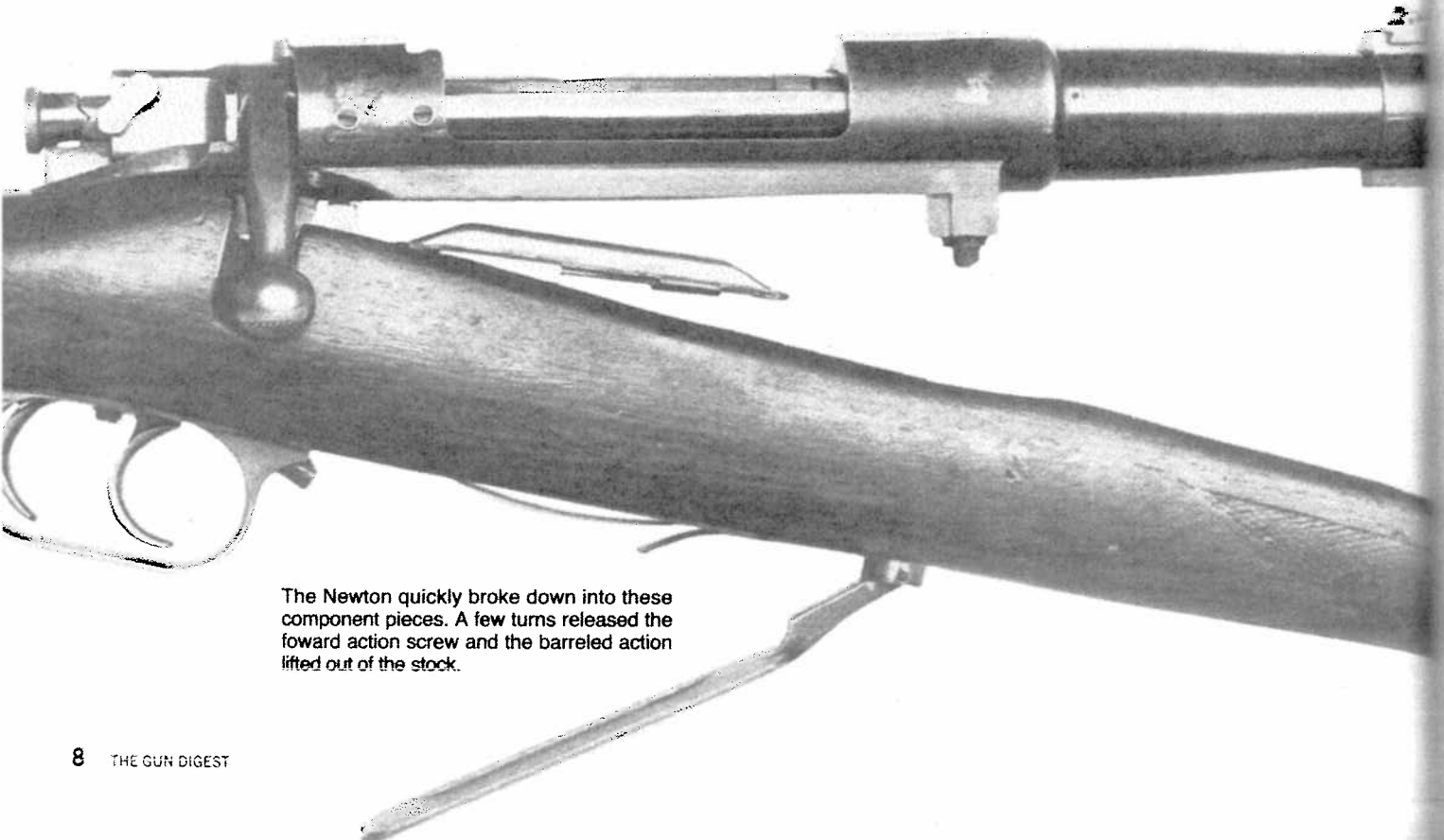
The hinged floorplate served as a wrench to release the forward action screw.



The forward receiver screw was threaded along its entire length. By releasing the set screw, the larger receiver bolt could be turned into the receiver. This tightened the action of the floorplate. This was one of Newton's finest design thoughts.



The rear tang was split allowing the rifle to unhook at this point in the takedown process.



The Newton quickly broke down into these component pieces. A few turns released the forward action screw and the barreled action lifted out of the stock.

The set trigger adjusting screw was a full ¼-inch in diameter. This was hailed as an advancement over other models since it was easy to adjust and handily located between the two triggers. No dismantling of the rifle was required to make the adjustment.

Internally the Newton featured a well-designed bolt stop mechanism. It was located below the bolt and to the rear of the magazine and engaged in a notch cut into the lower side of the bolt. The bolt was withdrawn by pressing the front trigger, and when the tail of the sear rose it engaged a lug on the lower side of the bolt stop. This prevented the stop from rising and the bolt could be slipped out of a

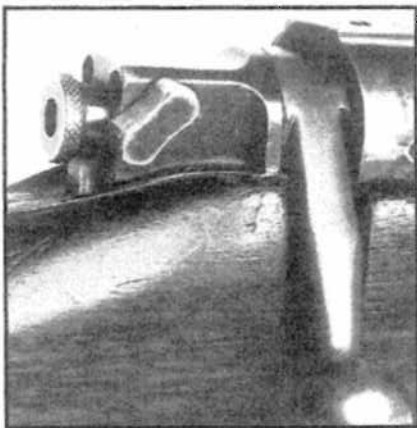
he made his own rifle. In his own words, writing in *Outers*, February 1916, he states, "we liked some features of other rifles better . . . we decided to make a combination of the best points of the different rifles."

Two of his modifications involved the cocking cam and the bolt sleeve. Compared to the Springfield, the Newton allowed the bearing of the cam against the toe of the cocking piece to be twice the distance from the center of the firing pin. This meant the slope of the cam was less than half that of the Springfield and, therefore, would function with less effort.

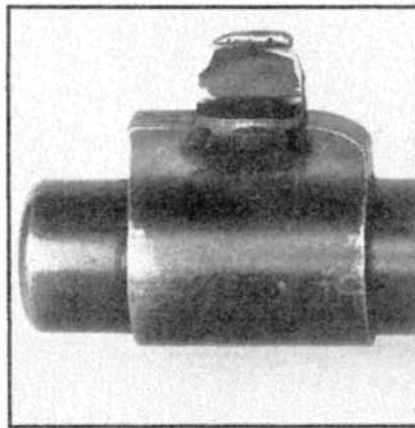
The sleeve is attached to the bolt with a left-hand thread instead of a

gun bore, and this, in turn, reduces the opportunity for erosion. The smoother bore also reduces breech pressure, allowing larger powder charges to be used, producing greater velocities with similar pressures.

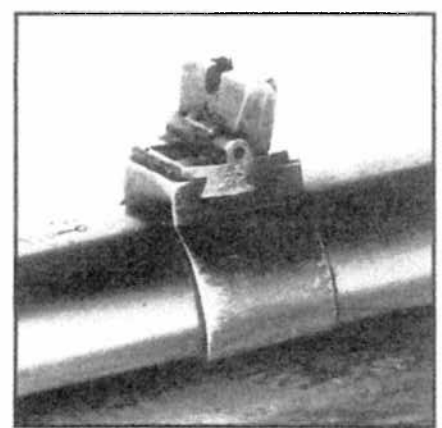
Segmental rifling can be described as an oval pathway cut along the bore of the rifle. It is made by preparing the barrel in the same manner as traditional rifling. However, instead of cutting grooves and lands on the inside, an oval is cut the size of the final bore diameter and spiralled forward the length of the barrel. As a result, when the bullet enters the bore it is actually slightly flattened rather than cut by the grooves of traditional rifling. The oval spiral imparts the



The 3-position safety on the side of the bolt head was a Newton idea for sporting rifles.



The front sight was dovetailed directly into a barrel band.



Likewise the rear sight was dovetailed into a band. Newton preferred this to avoid milling operations on the barrel.

receiver. This design contributed to the streamlined appearance of the receiver and was an especially clever addition to the early bolt rifle.

Other Newton features included a bolt handle that did not interfere with mounting a scope. Although scopes were not in common use at the time, European hunters and many specialist shooters could see an emerging scope market. This rifle let the shooter place a scope directly over the center of the bore and as low to the receiver as the technology of the time would allow. This, in combination with an unobtrusive safety and a flat-topped receiver, made easy the use of a scope.

Newton's genius also shone in the areas of redesign and modification of existing designs. In one of his catalogs he admits to taking the good designs from other rifles. Initially he considered manufacturing the Springfield rifle from the ground up, but when faced with the effort of designing the machinery and tooling he realized that costs could be better recovered if

right-hand type as was common to other rifles, most notably again, the Springfield. This meant that when the bolt handle was turned upward during loading the sleeve would be thrust rearward one quarter of a turn. When the bolt was moved to the closed position the sleeve would be drawn closely to the rear of the bolt. This made a very close joint and prevented dirt and moisture from getting into the bolt.

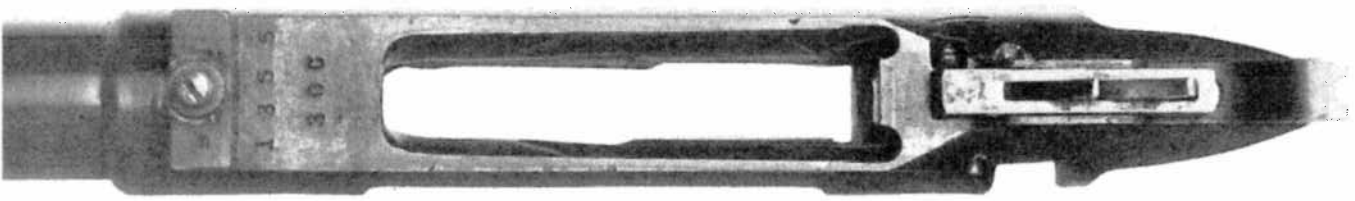
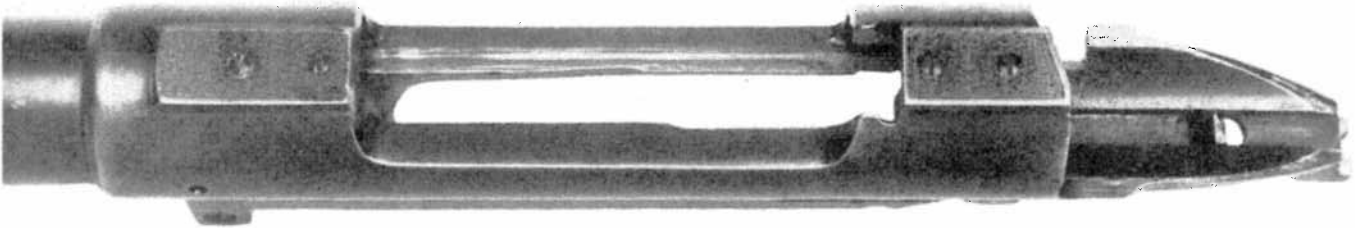
Barrels for the Newton rifle featured segmental rifling. History has it that Harry Pope supervised the manufacture of these and Newton refers to him as "one of the oldest and best known rifle builders in New England." Segmental rifling is said to provide less resistance to the bullet as it travels down the barrel and hence allows for slightly higher velocities. There is also improved accuracy and less strain on the bullet jacket as it passes down the bore. Moreover, the bores are very easy to clean, being about as smooth as an average shot-

spin to the bullet.

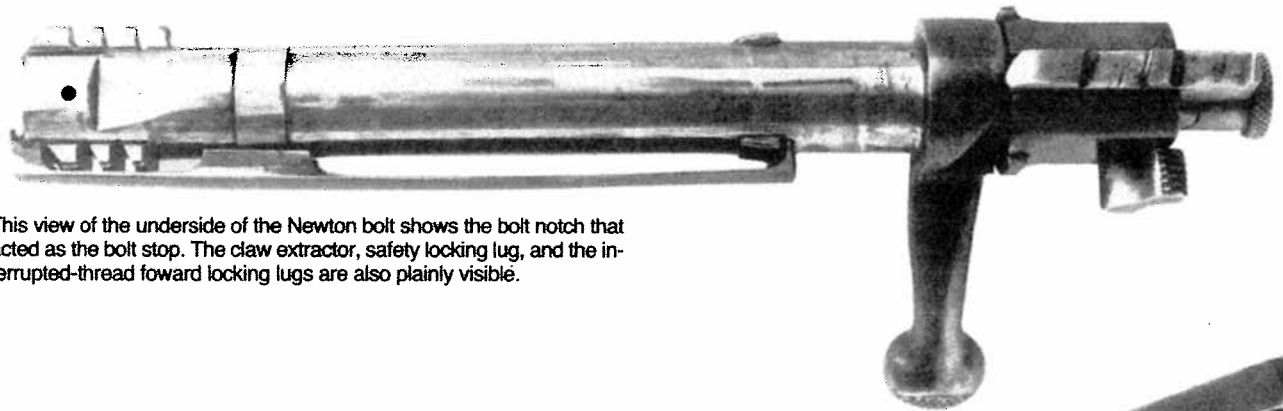
Newton was successful with this type of rifling, and he went on to design other forms or combinations of rifling that appeared in later rifles. Most notable was his Newton-Pope variation which consisted of the oval bore along with lands and grooves. The grooves were only very shallow cuts with no sharp edges. Newton also designed a type of parabolic rifling where the grooves formed a driving edge next to the lands. This has been described as a "ratchet" effect. It, too, was very accurate.

So, the question remains, whatever happened to Charles Newton's great design ideas? The answer is simple. Many have been incorporated into our present-day rifles, and shooters benefit without knowing where the contributions originated. Remember, too, that Newton was competing against European Mausers and Springfield actions of the day, and, compared to these, his improvements were vast.

The bolt of the Mark V Weatherby



The receiver is one piece, milled from a bar. The serial number was also marked on the stock, bolt, buttplate and other parts of the rifle.



This view of the underside of the Newton bolt shows the bolt notch that acted as the bolt stop. The claw extractor, safety locking lug, and the interrupted-thread forward locking lugs are also plainly visible.



The bolt and receiver together presented nearly a dozen innovations in the sporting rifle field.

owes elements of its design to the Newton bolt. It features nine locking lugs compared to the seven found on the old Newton. This is sufficient to prevent any setback from the high velocity and high pressure generated by the Weatherby proprietary cartridges.

The Winchester Model 70 three-position safety directly originates from the Newton. As most shooters will already know, the middle position on the safety allows cartridges to be worked clear of the magazine. This provides a great safety feature unavailable in the lever-action rifles common in the Newton era.

One of Newton's major contributions to modern bolt rifles was the hinged floorplate. In the years that followed nearly all arms companies employed this feature. The Remington Model 700, Winchester Model 70 and the Ruger Model 77 modern production rifles all have this feature. As well, the floorplate or bottom of the magazine on the Newton was held in place by a plunger-type release button. This is identical to the present day release found on the Winchester Model 70.

The flat-topped receiver has also been modified and adopted from the Newton. Both the Sako and the Ruger bolt-action rifles now have this feature. In both cases, the flats have been modified to accept modern-day scope mounts, but then again, old Newton could not have thought of everything.

The first Newton sported the classic style of stock with much European influence. It was very plain and in some ways contrasts sharply with the

avant-garde nature of the actions and barrels. Those were loaded with special design features, and the stocks were the epitome of conservative design. The stock came with a small schnabel forearm and a very full shotgun butt. It had a full pistol grip with a gentle curve to its line.

Compared to modern rifles, the pistol grip might be considered thin throughout its entire length. In the early rifles the grip was strengthened by a bolt that ran up from the bottom center of the pistol grip cap and screwed into the rear receiver tang. In keeping with Newton's sound engineering principles, the screw also functioned to hold the rear tang in place, giving the takedown mechanism something firm to butt against. Newton called this an upper tang truss bolt and it contributed to allowing the thin pistol grip to survive the ravages of hard use and heavy recoil.

It is only recently that similar designs in stock making have reappeared. Today's Model 70 Featherweight stock bears an uncanny resemblance to the early Newton. This kind of stock comes to the shoulder with little effort and the sights align on target as if the shooter has been using the rifle since his youth. Again, the stock reveals the same kind of practicality that Newton seems to have so effortlessly designed into his first rifle.

Like many of today's modern rifles, the stock finish was notably dull. The current return to these kinds of non-glare finishes has been appreciated by today's hunters, and it does show just how ahead of his time Newton really was.

Stock dimensions were those common to the era. These included a length of pull that was just over 14 inches. While a bit longer than the now accepted 13½ inches, this was actually favored in a rifle shot extensively from the prone. The drop at the comb was ¾-inch. Drop at the heel was 2¾ inches, and while this may seem excessive compared to today's sporting stock, it was very acceptable when iron sights were primary.

So, with all these features, whatever happened to the Newton rifle, and why is there not a Newton rifle company producing rifles? The answer to that question is far more difficult than simple research would indicate. Newton actually existed and was a prolific firearms writer. He was apparently a farmer turned lawyer who had a tremendous interest in firearms. He attempted to translate this interest into firearms manufacturing

and it is here that he clearly got into trouble.

The issue has been confounded by misinformation generated by various gun writers on both what happened to the company and on the performance of the Newton rifle.

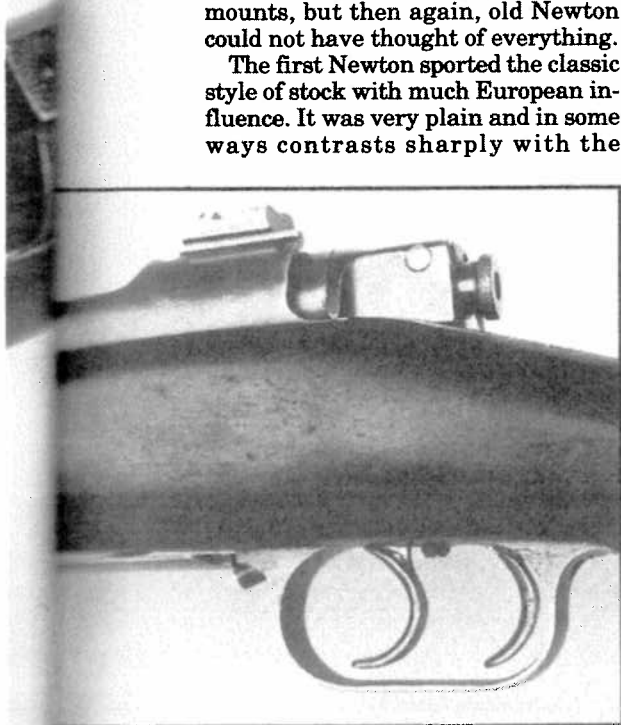
It was not until 1985 that the definitive information on the passing of the Newton company was readily available. After nearly 35 years of research and collecting, Bruce M. Jennings published the available Newton information in one volume entitled *Charles Newton Father of High Velocity* printed by Fenski Printing of Rapid City, South Dakota.

It is in this book that a glimpse of what might have happened to the rifle emerges. Essentially Newton made the error of not hiring competent people both in the machining and management areas of his firearms firm. This two-pronged failure produced disastrous results in two key areas. One was a product of inconsistent quality and the other was insufficient product getting to market. It was not Newton's design, but a business failure, that left history guessing about whatever happened to the first Newton rifles.

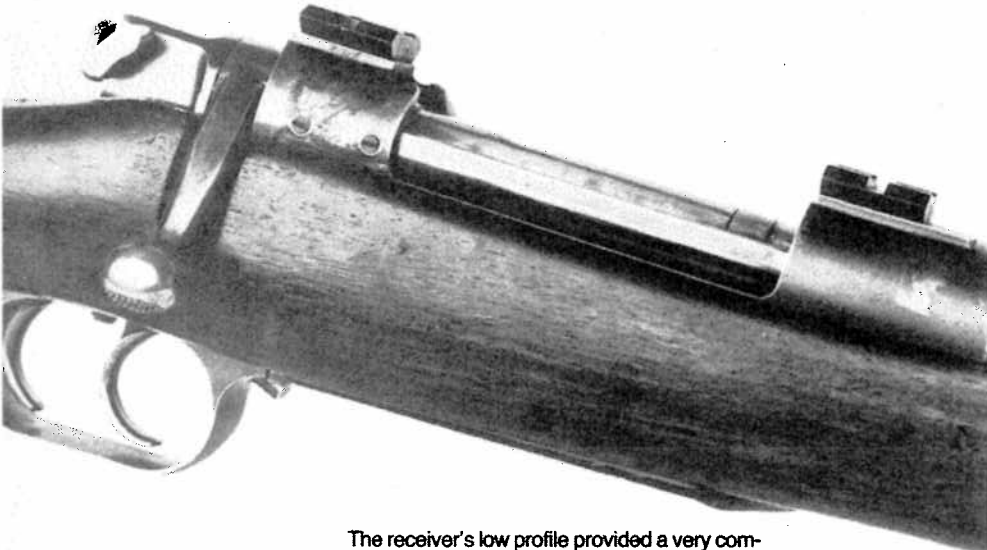
Very briefly, the Newton company went through several reorganizations. Initially, Newton was backed by a brewery owner named John Nagel who, because Prohibition was putting his beer sales in limbo and causing his capital value to shrink, found himself badly overspent. This resulted in heavy borrowing to keep the arms company afloat. Sad commentary as it may seem, Prohibition not only deprived thirsty hunters of a good drink, but it also sounded the death knell for a fine hunting rifle.

Perhaps more significant was the American entry into World War I and the ramifications this move had on the fledgling company. By January of 1917 the rifle was in full production and being sold in the U.S. However, the U.S. entered the war on April 6, 1917 and shortly thereafter took over the Newton cartridge factory. Although the brass for the cartridges was being supplied by Rem-UMC, the components were assembled by the Newton factory. War industry required this machinery. This brought rifle sales to a halt since, without cartridges, rifle purchases became rather academic.

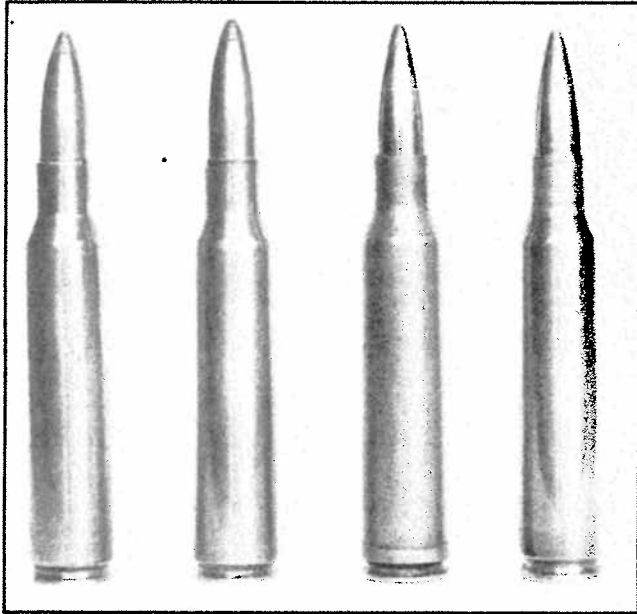
This had further effects on the Newton company. With an infusion of additional capital, they undertook to produce their own shells. While this retooling effort was going on, money



The set trigger adjusting screw was large and readily accessible, located between the two triggers.



The receiver's low profile provided a very compact and sleek firearm. The flat top makes it easy to fit many modern scope mounts.



Left to right: Original 30 Newton as produced by Newton Arms Company; 8x68 converted to 30 Newton; a 308 Norma Magnum converted to 30 Newton; and an original Remington-UMC 30 Newton.

was being borrowed to finance the entire operation. Bank loans were mounting. Just as the cartridge portion of the company got nicely under way, the banks called their loans and placed the debt-ridden company into receivership. Hence, actual produc-

tive operation of the Newton Arms Company ran from January 1, 1917 until April 25, 1918.

Out of this, a group of receivers proceeded to dispose of the rifles on hand and assemble others from parts. It is in this period that many of the poorer quality rifles found their way into the marketplace and currently lie in the hands of many collectors.

The rifle never really recovered. Newton would go on to attempt reorganization of the firm and try to bring out another product. He would also end up suing the firm that took over his first company, but the first Newton was gone from the shooting-hunting scene.

The question of how many first Newton rifles were ever manufactured may now be put to rest. Depending on who one reads, the number of rifles produced varies. Sharpe, in his book *The Rifle in America*, indicates no more than 7000 Newtons were produced. He is probably referring to all Newtons made by the different reorganizations. Harry O. Dean, writing in a 1956 *GUNS* magazine, claims about 2400 were produced. Jennings, in personal correspondence, says that about 4000 rifles were made before the company went into receivership.

The issue of quality can also be put to rest. Many writers, especially Sharpe, were overly critical of the quality of the first-run Newtons. Background work done by Jennings now suggests that of the 4000 rifles made only about 2400 passed the rigid inspections required by Newton. The other 1600 ranged from merely poorly done to outright junk, with the best of the bunch being marketed by the receiver within a few months of bankruptcy. About 1000 remained and these were sold to a secondhand machinery company that quickly saw an opportunity to sell these by incorporating as the Newton Arms Corporation. Newton then took the company to court to prevent the use of his name



With the rifle at the shoulder, the bolt could be worked with very little disturbance to sighting and hold.

and his being associated with the company. This effort was concluded by July, 1920 but by then many of the reject rifles had been foisted on to the public.

It is safe to say that the quality of rifles varied considerably, and that many poorly executed pieces were the result of the receivers moving into the gun business.

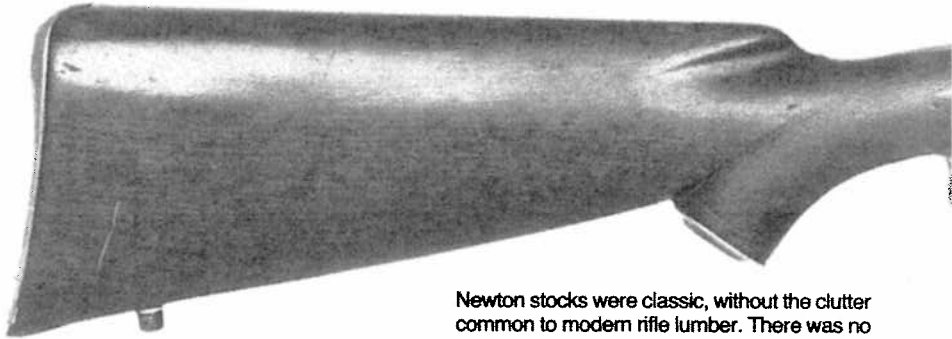
There is also the outstanding issue of serial numbers as a way of determining whether the rifle was made by Newton, the receiver, or the ersatz firearms company. It seems there is no way to tell. Research done by Jennings indicates well-appointed and well-made rifles can occur anywhere in the serial number range. An early run Newton is, therefore, no guarantee of an original Newton and the same applies to one with a higher serial number. The quality of the arm in the hand is the only key to originality.

Aside from all the mystique surrounding the Newton, any hunter armed with one to this day is well equipped for all North American game. The rifle I was able to shoot was an original in 30 Newton. Original factory loadings were 150-, 172-, 180- and 225-grain bullets developing 3200, 3000, 2860 and 2610 feet per second (fps) at the muzzle. Performance is at par with other, more modern rounds and well exceeds what was available from other cartridges at the turn of the century.

From a hunter's point of view the 30 Newton had few faults. One of the complaints recorded in the shooting literature is the excessive recoil gen-



A very conservative schnabel forearm was almost a signature of the Newton stock.

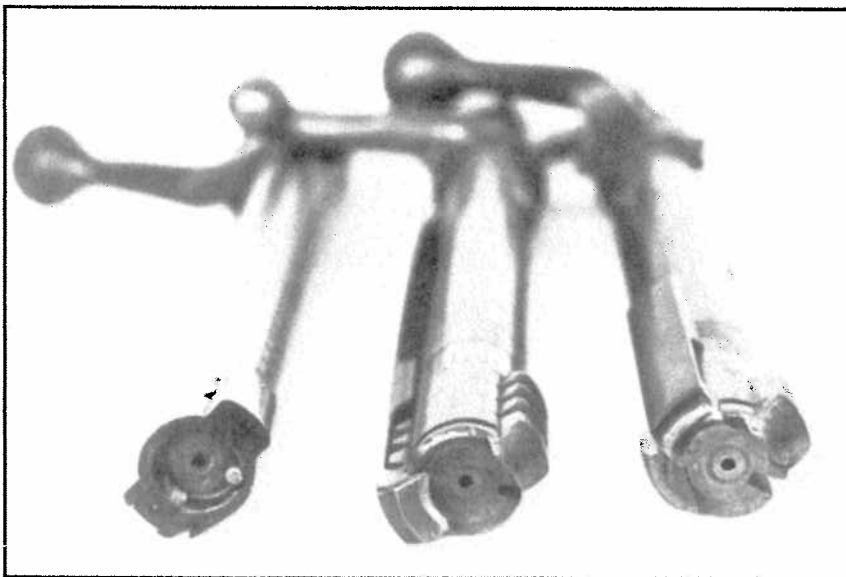


Newton stocks were classic, without the clutter common to modern rifle lumber. There was no cheekpiece or roll-over comb, and there was a broad shotgun-style butt.

erated by the high intensity cartridges available for this rifle. Recoil is evident to anyone undertaking to shoot these old-timers. The rifle I was able to examine weighed in at only 6¾ pounds. This is indeed light for a rifle sporting a 23¼-inch barrel. Recoil was calculated using a load of 62 grains of IMR-4895 with a 180-grain Sierra bullet. This load produced an average of 3025 fps muzzle velocity.

Using the standard recoil calculation, this yields a hefty 29.13 foot pounds of recoil energy, a fair bit for the average shooter to absorb. The same load in a modern day 300 Winchester Magnum would produce equal recoil in a rifle of similar weight. However, my Model 70 in this caliber tips the scales at an even 10 pounds, so that the same calculation would give only about 19.8 foot pounds of recoil energy. The exercise does show that the old Newton produced recoil that could approach uncomfortable levels.

For many of us, just being able to shoot or briefly own a Newton lets us partake in the romance and tribulation that was so much a part of this rifle and its background. There is no doubt that Newton, the person, was a rifle genius before his time. There is no doubt the Newton rifle was ahead of its time. Unfortunate circumstances brought the first Newton company to its knees before it was ready to fly. Other and later Newton rifles would never be able to capture the quality and workmanship of the early efforts. Newton as a promoter, through his various catalogs and eloquent promises, gained the wrath of the gun writing fraternity, but even they had to admit that Charles Newton was indeed the father of modern high velocity whose contributions to modern-day rifles is a legacy left for us to enjoy.



The heads of three bolts compared: left, a post-'64 Winchester Model 70; center, the Newton; on the right, a Model 54 Winchester.

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