

'THE CADET' MARTINI

By GEOFF ALLEN



The .310 'Cadet' Martini, a scarce and collectible antique breechloader. Trident Arms have a quantity in stock.

IN 1900 the well known Birmingham maker, W. W. Greener introduced a scaled down Martini action rifle for the new Rifle Club movement, which he and others were instrumental in founding. The new 'Miniature' Martini rifle was chambered for the .22 long rimfire cartridge, and Greener's .310 centrefire version for target shooting at longer ranges. The club movement arose out of the new found interest in rifle shooting in this country after bitter experience of British soldiers sent out to South Africa to contend with the Boers had shown the folly of sending out troops who could not shoot well, against the Boer's citizen army who could.

Greener was also a notable writer on the subject of guns and shooting, and published his book *Sharpshooting for Sport and War* the same year. It was a perceptive study of the use of the rifle and the lack of skill in its use among the British, the consequences of which had just become tragically apparent in South Africa. He observed then what some military men are privately saying again now: that skills for national survival in war are cultivated by short term military service, still compulsory in many countries, or a militia system such as that of Switzerland or Israel. Now, certainly, there will not be time to train an army from scratch.

Greener noted that archery was once "the strength of the nation and safeguard

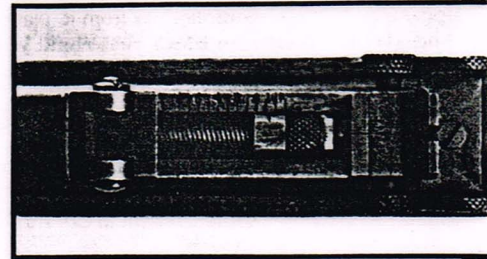
of its freedom" and warned of "the coming great struggle for world supremacy". He was right, and it was the skill in musketry of the British Expeditionary Force in 1914, followed by the rapid assimilation of civilian rifle shooters into the great volunteer armies hurriedly raised in the months that followed, which saved this country in 1914-16.

Fostering those skills had been the work of the National Rifle Association, The Society of Miniature Rifle Clubs and thousands of miniature rifle clubs throughout the land. The .22 "Miniature Club" rifle was a great success on the proliferation of indoor ranges, his .310 "Sharpshooter's Club" rifle for target shooting at all ranges from 50 to 300 yards. In 1901 he established what was to become the most popular of all miniature rifle competitions at Bisley "The Greener", and notes in his 1910 edition of his work *The Gun and its development* that "in its first meeting a record was established with the Greener .310 bore rifle at 100 yards, which record has never yet been beaten by any other rifle in a public competition."

The change in attitudes towards rifle shooting also extended to the Colonies, and Australia set an example by making provision for the training of 150,000 cadets. The junior boys were given the War Office "miniature pattern" bolt action rifle in .297/230 calibre, the older boys having the Greener Sharpshooter's



The rifle was manufactured by the BSA Company, who continued to exploit the design until 1950.



Rearsight was fine-adjustable for windage and elevation.

Cadet rifle of .310 calibre.

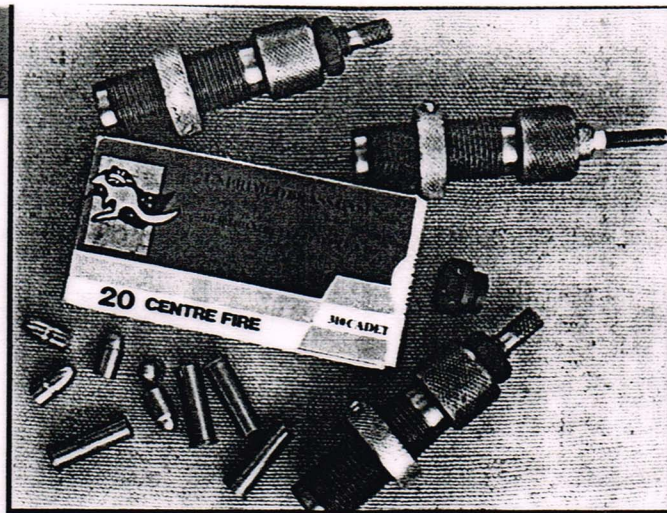
BSA manufacture

Our example was dated 5/11 by the storekeeper's stamp on the butt, marked to the State of Victoria of the Commonwealth of Australia and numbered 13388 by them. It was manufactured by BSA, who appear to have taken over the Miniature Martini from Greener, and continued to make it in .22 rimfire form until 1950 as the Model 12, 13, 15 and 12/15 series of target rifles known to every club rifle shooter. They also manufactured sporting rifles, both rimfire and centrefire rook & rabbit on the Miniature Martini action.

The action itself was considerably modified from that of the .577-450 and .303 Martini service rifle action, employing Francotte's quick dismountable breech mechanism and BSA's cocking indicator. Instead of the breech being mounted directly in the frame of the receiver, it was carried on an internal cradle which was easily removed from the receiver with breech and trigger mechanism as a complete assembly. This eased cleaning of the rifle considerably, as it is necessary to remove the breech block of the Martini to clean residue off the breech face after firing, if black powder or corrosive primed ammunition has been used. Later rifles secured Francotte's assembly with a transverse screw at the bottom from of the receiver, but the cadet Martini used a split pin, which is driven out with a suitable brass punch to remove the mechanism for cleaning.

In keeping with the rifle's purpose, the .310 is light enough to be easily handled by a youth, but its butt is of adult length with a length of pull of 13 $\frac{1}{2}$ inches. Barrel length is 25 inches and weight of the Cadet rifle, 5lbs 10oz. The cartridge gave a light recoil and was loaded from the first with smokeless powder, chopped cordite or nitro-cellulose 'Axite' to give a nominal muzzle velocity of 1,200 fps. Standard bullet weight was 120 grains and it was of lead, heel seated, grooved and wax lubricated. Cartridge case was straight tapered, 1.08" in length and rimmed. Ammunition is, of course, no longer obtainable today.

This is fine as far as the collector is concerned, but the Classic Rifle shooter is attracted to the .310 cadet now as never before due to its suitability for 'pistol



Above: Dies for the .310 are available from NDFS; brass from Henry Krank & Co.; the correct heel-type bullets from Custom Bullets. Right: The Greener 'Miniature Martini' and .310 cartridge were introduced in 1900.

calibre' rifle ranges. The cartridge has a relatively quiet report and is very pleasant to shoot with, it is however not an easy one to get shooting well. Those who have added a .310 rifle to their firearm certificate in order to get one going again for the vintage rifle events have experienced varying degrees of success, and we have received letters asking for help. Hopefully, we have found a suitable load.

Loading components

Loading dies and shell holders for the .310 cadet are available from North Devon Firearms services. The Australian-made Bertram cases, the only brass obtainable for this rifle, are available from Henry Krank & Co. The real problem is bullets. Bullet diameter for the .310 is nominally .316" and the original design of heel seated bullet must be used. The only source of these is Custom Bullets, who offer a cast and a swaged bullet for the .310. We obtained samples of both and selected Alliant Unique powder as being likely to give satisfactory results.

The cast bullet is produced from moulds obtained from NDFS and is an exact copy of the original; heel based, round nosed with one grease groove, weighing 120 grains. The swaged bullet weighs 115 grains, is heel based and a little shorter. It seemed to me that if a load could be worked up to give a muzzle velocity matching the nominal 1,200 fps of the original, something approaching the original accuracy could be obtained.

Problems were initially encountered with loading both bullets, until it was realised that case neck diameter at the mouth is critical with this round. Slightly oversize, and cartridges will be difficult or impossible to chamber fully. The case cannot be crimped onto the heel seated bullet with currently available loading dies and this was seen as a possible problem. In the event, providing case mouths were flared no more than was necessary to allow the bullet heel to seat without shaving, the tight fit of bullet and case seemed to be sufficient. This is the

same seating arrangement as a straight-cased auto-pistol cartridge after all. After seating the bullets carefully to where the case mouth was exactly lined up with the step in the bullet, the cartridges were rolled on a case lube pad and then sized in the resizing die, the de-capping pin assembly removed, until the case and bullet body were flush. Some trial and error will be needed to establish the adjustment of dies required to do this, but outside diameter at the case has to be held to 0.335" if cartridges are to chamber freely. Only about the first one tenth of an inch of the case will be resized, forming a slight taper crimp on the bullet heel.

These bullets are normally lubed by rolling in Lee's *Liquid Alox*, but I wiped them with a soft wax lubricant after loading to lubricate the bullet in the same way as a .22 rimfire, and as the original .310 Cadet cartridge.

A starting load of 3.0 grains of Unique was selected. This averaged 1098 fps, too low. Increasing to 4.0 grains increased the velocity of the swaged and cast bullets respectively to 1133 and 1104 fps, indicating a pattern of higher velocities with the swaged bullet for a given charge. At 4.3 grains the swaged bullet was averaging 1216 fps. The cast bullet averaged 1218 fps at 4.5 grains of Unique. Out of curiosity, the charge was increased to 5 grains. This gave 1,415 fps but

Shame about the high flyer, but look at the rest of this 50 yard group made with the test gun and the cast 120 grain bullets.



pressures were too high as signs of primer extrusion back into the firing pin hole were evident. If you want a higher velocity, it will be necessary to select a slower powder. For our purposes, Unique worked nicely.

Particularly pleasant

The .310 is a particularly pleasant rifle to shoot with. The test rifle was in excellent condition with a mint bore, 98% original finish and a crisp lock and trigger. The sights of the Cadet Martini comprised a fully adjustable wide 'V' rear of similar pattern to the contemporary SMLE and a 'barleycorn' tapered blade front. The sight picture is good for target work, and shooting from a rest at 50 yards a number of one-hole groups were obtained. No wonder such excellent shooting at longer distances was done with the aperture sighted .310 target rifle.

Our duplicate original load worked superbly, made possible by the reloading components and tools now available for the knowledgeable Classic shooter. Both the cast and swaged bullets appeared to group equally well and, providing the points mentioned earlier are watched carefully, the .310 cartridge should be easy enough to load, after a little practice. One or two tight rounds served as a reminder that case mouth diameter has to be watched very carefully when sizing but using the correct bullet loaded to the original velocity proved a good load for our rifle. The results on the target, I think, speak for themselves.

My thanks to Mike Long of Trident Arms for the loan of the test gun, to Jim of North Devon Firearms Services for an excellent set of dies, to Henry Krank & Co. for a sample of the drawn brass Bertram cases and Colin Billet of Custom Bullets for samples of their excellent .310 bullets. Many years ago I tried to get a .310 rifle grouping satisfactorily with a standard bullet and old cases, and failed miserably. Thanks to the high quality components now available from the above sources, obtaining the original match-winning accuracy from the .310 is once again possible.