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ENFIELD TRAINING RIFLES * BSA & OTHER TARGET RIFLES * Non-Firing Training Rifles * MINIATURE CALIBRE ADAPTERS & CONVERSION UNITS * SUB-target DEVICES

A.J. & A.G. PARKER and PARKER-HALE

SERVICE RIFLE TARGET SIGHTS

as illustrated in their catalogues over 60 years ~ 1920 to 1980

MODEL 3 MODEL 4 **MODELS 5 A-E MODEL 6 MODEL 9**

TZ MODELS (Twin Zero) **MODEL 8/53 INSTRUCTION MANUAL**

RIFLE SIGHTS - GENERAL VERNIER SIGHTS FORESIGHTS

RIGHT: Auxiliary sight as fitted to the No.2 Mk.IV* Lee-Enfield Training *Rifle... >>...*

See also the Parker-Hale CMT rifles , the Parker-Hale Targetscope, the Parker-Hale Dewar rifles and ParkerRifling, A.G and A.J. Parker and Parker-Hale, plus the Parker-Hale target index practice rod. Small-bore target rifle sights and accessories to follow soon.



This simple yet effective aperture sight was designed by our Mr. A. E Parker to bring the 22 calibre Short Lee - Enfield into line with the 1914 Enfield Riffe.

Troops issued with the 1914 Enfield rifle with aperture sights naturally wish to train withaperturesights on the Miniature range, and our sight therefore fills a much needed want

It will be noticed from the illustration that the Firer's view of the sight is precisely the same as his view of the 1914 Enfield Sight, which naturally increases the efficiency of Musketry Training on the Ministure range.

PRICE 10s, 6d., Post 2d. (Improved Pattern). Designed and Manufactured by A. G. PARKER & Co., Ltd., Musketry Specialists, Bisley Works, Whittall St., BIRMINGHAM.

MODEL 3 and 3A

For the .22RF converted Martini (Henry), Metford & Enfield Service Rifles



FEATURES.

fixing on rifle (no fitting

Testimonial. — Mr. J. BROWN, S. Argyle Terrace. Newcastle on Tyne. writes on 30/10/22: "Am pleased with the Parker-Haie Aperture Sight, it is a rigid and smart piece of workmanship."

Important to Club Secretaries. important to Club Secretaries. Don't discard your old Converted Martinis. Sell them for a nominal amount to your members and advise them to have them Parkerified and fitted with a No. 3 Parker-Hale Aperture Sight The rifle is then fit to compete at an Open Meeting in the best company.

PARKER'S C.M. TARGET RIFLE. ACCURATE. WELL EQUIPPED. CHEAP.

The foundation of this Rifle is the well-known Converted Martini with which so many Rifle Clubs started their careers. In the course of time, these Rifles were shot out and discarded in favour of specially built rifles, such as the B.S.A. and Vickers' models of the present day.

To meet the demand for a cheap, good, well-equipped Target Rifle we have bought up a very large number of converted Martinis, which we have converted, as shown in the illustration, to the conventional Target type of the present day, the barrel being re-lined with our famous "Parkerifling," which is admitted to be equivalent to the best target barrels and as used by many of the finest shots in the country.

SPECIFICATION.

Action .- Genuine Government inspected components. Barrel .- 26in, long "Parkerifled."

Backsight .- The latest No. 3a Parker-Hale Sight with 1 minute clicking movements.

Foresight .- The Parker-Hale Interchangeable Foresight, complete with foresight shade.

Length Overall .- 421 inches.

Weight .- 8 lbs.

A Testimonial from Mr. F. OTTON, Maidstone, 16/1/30: "I feel I must express my thanks for such a splendid Tool. It came up to my expectations; I and my friends have fired with it and find it absolutely accurate, and we all think the PARKER-HALE Sights must certainly be the last thing in perfection.





List No. CMT.1. Price, 84/-Complete as Specification.

»Parker Hale

model 3A aperture backsight can be fitted by the amateur with the help of a screw-driver. The axis screw supplied with the sight replaces the block axis pin and the set screws, being pointed and hardened, bite into the action body and prevent any movement of the base. The pillar of this sight folds down when out of use. List No. 3A with single hole eyeplece, 22/6 Extra for six hole eyeplece, 4/-

COMPONENT PARTS FOR CONVERTED MARTINI RIFLES.

Breech Block		5/-	Stop nut screw		1/-	Trigger Spring		1/-
Lever	·	5/-	Trigger		2/-	Stockbolt		1/6
Trigger Guard		5/-	Striker		2/-	Guard Swivel	÷	1/6
Extractor			Main Spring	<u>_</u>	9d.	Top Band	§	1/6

Bree

31-	Suriker	2/-	Guard Swivel	1/6
1.16	Main Spring	9d.	Top Band	1/6
4/-	Extractor Axis Pin	6d.	Top Band Swivel	1/6
1/6	Block Axis Pin	6d.	Middle Band	1/-
1/6	Lever Catch	1/-	Sight Leaf	2/6
	4/- 1/6 1/6	3/- Striker Main Spring 4/- Extractor Axis Pin 1/6 Block Axis Pin 1/6 Lever Catch	3/- Striker 2/- Main Spring 9d. 4/- Extractor Axis Pin 6d. 1/6 Block Axis Pin 6d. 1/6 Lever Catch 1/-	3/- Striker 2/- Guard Swivel Main Spring 9d. Top Band 4/- Extractor Axis Pin 6d. Top Band Swivel 1/6 Block Axis Pin 6d. Middle Band 1/6 Lever Catch 1/- Sight Leaf

and a screw-fixed non-fulchrum mounting version



The No.3 sights were still being marketed post 1925

THE MODEL 4 (circa 1946)

THE PARKER-HALE MODEL 4 APERTURE BACKSIGHT

For the No. 4 Mk. I Rifle Officially approved by the National Rifle Association



This compact and neatly designed aperture backsight was introduced at the 1946 Bisley Meeting, where it was welcomed because it was the one thing needed to make the new No. 4 Mark 1 into a target rifle, suitable for use in N.R.A. (S.R. class b) competitions. As illustrated and originally sold there was no windage zeroing adjustment, but now all sights have a neat adjustable windgauge scale plate.

It has the usual vernier elevation and windgauge movements combined with distinct 2 minute clicks.

The eyepiece gives a choice of six apertures from .03" to .08". Being designed to displace the Service aperture backsight it can be fixed by the removal and replacement of the sight axis pin.

It is a part of the design that this and its military counterpart are sights pivoted and retained in the up or down position by the action of a spring loaded plunger operating on the foot of the leaf. On recoil the sight is forced out of the vertical position but recovers due to the operation of the spring and plunger.

It is, therefore, essential that complete freedom of movement at the hinge should be assured

by careful fitting in the first place and a simple test may be imposed by pushing the sight forward approximately 10° and allowing it to recover its vertical position noting the complete absence of friction and the recovery of the sight to the correct upright position.

Since these sights must of necessity be fitted to rifles made under the stress of war conditions in various factories, it may be essential to ease the excess metal from the pivotal points on the rifle, and another feature to note carefully is the fit of the plunger in its guide hole.

With proper attention paid to these details, this model PH.4. need never be blamed for its shortcomings as an aperture sight of excellent merit and serviceability.

PRICES List No. P.H.4 With midget 6 hole eyepiece List No, P.H.4A. With " Featherweight " single hole eyepiece

MODEL 'Plus 5' (1939)

MODEL 5A

MODEL 5B

MODEL 5C

MODEL 5E

MODEL 5D

For both the Long (C.L.L.E.) and Short (S.M.L.E.) Rifles



This Sight embodies a collection of the best ideas from the designs of various folding models of aperture sights now on the market. Its points of improvement over competing models are

(1) Neater and lighter construction combined with adequate strength.

(2) Spin-up rigid locking device in place of coin slot screws on elevation and wind arm bars, thus saving the trouble of fumbling for coins.

(3) Adjustable elevation scale plate reading 5 minutes at 200 yards, never a minus quantity.
(4) Windgauge Scale on top of bar where it is most easily read with arm in sling. One's eye is too close up to focus a scale cut on the front when about to fire.

(5) A sight fixing plate which suits all models of Service Lee Enfield Rifles. PRICES.

With single hole eyepiece (Ref. F.W.) List No. P. V.10 37/6



With lightweight 6 hole eyepiece (No. P.H. 55) List No. P.V.11 42/-With eccentric 6 hole eyepiece (No. 9.C.E.) List No. P.V.12 42/-

SPECIAL SPARE PARTS LIST FOR THIS SIGHT. Scale Plate with S.M.L.E. Range divisions to convert from long rifle to short rifle readings . No. P.51. Price 2/3 each Elevation Scale Plate fixing screws. No. P.52. Price 4d. pair windgauge Scale Plate fixing screws. No. P.53. Price 3d. each - Spring holding elevation pillar. No. P.54. Price 3/- each Spring holding windgauge arm. No. P.55. Price 2/- each Spin up lock nut and screw (large) . No. P.56. Price 1/6 each Spin up lock nut and screw (small). No. P.57. Price 1/6 each For prices of fixing screws see page 14.



PARKER'S PLUS "5" FOLDING MODEL APERTURE BACKSIGHT FOR LEE ENFIELD RIFLES.

This Sight embodies a collection of the best i from the designs of various folding models of apei sights now on the market.

Its points of improvement over competing models are :

(1)Neater and lighter construction combined adequate strength.

(2) Spin-up rigid locking device in place of coin screws on elevation and wind arm bars, thus sa the trouble of fumbling for coins.

(3) Adjustable elevation scale plate reading 5 mnutes elevation at 200 yards, never a minus quantity.

MODEL 5A (circa 1925)

MODEL Plus"5"	MODEL 5B	MODEL 5C	MODEL 5D	MODEL 5E	

The basic design of the then 'NEW' No.5 Aperture rearsight was used throughout 56 years in 5 Marks, A - E.

"Service" Section.

A. G. PARKER & Co., Ltd., Bisley Works, BIRMINGHAM

THE Parker-Hale MODEL 5A APERTURE BACKSIGHT, FOR THE S.M.L.E. RIFLE

THE ATTAINMENT OF COMPACT PERFECTION. AN INSTANTANEOUS SUCCESS SINCE ITS INCEPTION IN 1925

AND EXCLUSIVELY USED BY THE CANADIAN BISLEY TEAMS

USED BY KING'S **PRIZE-WINNERS** IN 1926 Sgt. A. 0. Fulton, G.M., S.M. 1927 Capt. C. H. Vernon 1928 L/Cpl. Arthur C. Hale 1929 Lt.-Col', R. M. Blair 1931 Sergt. A. G. Fulton 1933 O. Cd. D. E. Woods 1934 Capt. J. A. Barlow **RECOMMENDED BY ALL LEADING RIFLEMEN.**



As is proved by the numbers in use this non-folding sight is unsurpassable for design, workmanship and finish. The knurled knob gives the fine clicking adjustment to the elevation slide, and the complete arm is quickly adjustable from, 200 yards to 1200 yards range or entirely removable for safety or for cleaning purposes by operating the spring loaded catch, which also acts as a lock when the knurled nut is tightened by finger pressure only.

The windage arm is sturdily designed and provides six bearing surfaces for the eyepiece holder, thus absolutely eliminating shake, while backlash is a trouble of the past with the latest `married' threads.

Owing to variations of shape of different makes of action bodies the secure fixing of an aperture sight has in the past been somewhat troublesome; by providing a special boss, forged solid with the base, to fit the majority of actions without filing, and a spring washer on a special fixing screw, much has been done with this model to cut down this trouble to a minimum.

The adjustable scale plates provide fully for the exact zeroing for elevation windage and range, the latter scale being set for a plus reading of 2 minutes on the vernier scale, when the sight is set for 200 yards, to avoid minus figures when elevation varies.

There is a full 40 minutes of windage movement in both directions and it will be seen that this important scale occupies a position on top of the bar where it has been specially placed to enable a reading to be taken when the arm is in the sling.

The low build of this sight is, specially appreciated on ranges similar to Bisley, where a setting sun can only be shut out by the use of a broad brimmed hat, this expedient being rendered useless by a sight having a high pillar.

List No. PRICES. 99x, With 1/2in. Single. Hole eyepiece 37/6

99v, Large " " 38/6

99W, Six-hole ,, ,, 42/-

PARKER -HALE MODEL 5A WINDARM



(b) ; minute ball clicking movements a^ backlash. SiGHT (c)

Lowest pillar permitted by the desil

(d) 3rd fixed position for Long rifles. PRICES. With single hole eyepiece (Ref. F.\V , List No. P.%".1&

With lightweight 6 hole eyepiece (No. P.Fl. 55) List No. P.V.11

With eccentric 6 hole eyepiece (No. 9.C.E.) List No. P.V.12

SPARE PARTS FOR THE PARKER-HALE 5A SIGHT.

(The Sight which runs on sprung bearings.)







Introduced as an alternative to Alfred J. Parker's Twin Zero 14/35 Model

The Parker-Hale Model 5B rear-sight for the Rifle No.3 (P '14)

THE PARKER-HALE MODEL 5B APERTURE SIGHT For the Enfield Pattern '14 Rifle Fatent Application No. 34391/34. Officially supplied to His Majesty's Royal Arsenal, Woolwich and approved by the National Rifle Association PARKER-HALE MODEL 5 B FOR ENFIELD PATT '14 (N93 MARK 1*) FI

Based on the design of our famous models 5A and 6A aperture sight for the Lee Enfield rifles, this model 5B is even better adapted for the pattern '14 rifle, as it needs no fitting, no extra parts to fit it, and moreover it is far less vulnerable, being largely protected by the original aperture sight fences.

All the features that have made the other models so satisfactory are included, viz :— 40 minutes of windage adjustments either side of zero, quick release for the slide, sharp half minute clicking movements and clear, easily read adjustable scales, combined with a strong simple quick release movement for the slide with a spin-up locking device that cannot strain the elevating screw.

Directions for fitting :—Remove from the rifle the short range sight axis screw and the bolt stop axis screw which will also release the longe range aperture sight.

Replace the bolt stop, force back the bolt stop spring and slip the grooved foot of the part "E.2" under the spring until the lower stud finds its way into the long range aperture sight axis hole.

When both studs are in place secure the sight by means of the thin sight axis screw E.1, without using force that will stretch and break the screw.

List No.	PH.106.	Model 5b sight with $\frac{1}{2}$ " dia. s	ingle	hole ey	repiece	•••	 Price	*********
		Prices with	extras	:				
List No.	106a.	9 Deep Bell Eyepiece .					 	
,, ,,	106b.	$\frac{3}{4}$ " Flanged Bell Eyepiece .					 	
,,	106c.	¾" Midget six hole Eyepiece					 	F
•••	106d.	⅔" Six hole Tubular Eyepiece	ð				 	

THE MODEL 5C (circa 1950)

MODEL Plus"5"

MODEL 5A

MODEL 5B

MODEL 5D

MODEL 5E

THE PARKER-HALE MODEL 5C APERTURE SIGHT Rigid Model For the No. 4 Mk. I Rifle Officially approved by the National Rifle Association



This sight follows along the well tried lines of its rigid predecessors and incorporates all the features of design pioneered by Parker-Hale. The dovetail slide for which our sights have long been noted, has in this model been employed both for elevation and windage adjustment with marked success and we are confident that its appearance will "take the eye" of all shooting men. This sight will undoubtedly supplant the Model 4 in the minds at least, of most users of the No. 4 rifle, but nevertheless we consider that in developing a design of sniping sight produced for the Government into the P.H.4 we served the best interests of the many No. 4 rifle enthusiasts who would otherwise have been dependent almost entirely on sights " as issued." The illustration depicts most of the salient technical features, but the experienced service rifleman will appreciate the staggered construction of the windarm which brings the eyepiece as close to the eve as safety permits, the overall low construction favourable to the use of a broad brimmed hat, and the retention of the elevation slide clamp, which also acts by a spin of the knob and thumb pressure, as a quick release for

the slide.

Attachment can be effected without any alteration to the rifle or the sight, by first removing the military leaf sight and the substitution of fixing screws, using existing points of attachment as illustrated. Each sight is supplied with the two necessary screws for attachment.

PRICES

MODEL 5D (circa 1954)

MODEL Plus"5" MODEL 5A MODEL 5B MODEL 5C MODEL 5E

PARKER- HALE MODEL 5D APERTURE SIGHT FOR RIFLE No. 8 (.22" cal. training)



Designed as one of an alternative set of sights to interchange with the military front and backsight for serious competition shooting, at the suggestion of the

Parker and Parker-Hale Service Rifle Sights



Ministry of Supply. Further details of the matching Parker - Hale interchangeable Element Foresight will be found on a succeeding page.

This gives a shooters eye view of the latest issue .22 cal. Training Rifle when fitted with Parker-Hale target sights.

Model 5D closely resembles our

Model 5C illustrated heretofore, and embodies a quick release for the elevation pillar and all the well tried features expected in Parker-Hale design. Its base is modified to take advantage of the two specially intended fixing points provided on the No. 8 action and embodies ample elevation and windage movements by quarter minute clicks for small bore work. Provision is made on the graduated adjustable scale plate for scribing a correct 25 yards zero mark to suit the individual rifle. Alternatively the vernier scale should be studied and adjusted to a reading that may be readily memorised for 25 yards range. We have adopted as standard the latest type of six-hole eyepiece which accommodates our plano light filters or a simple clearing lens, but alternative cheaper eyepieces may be ordered. s. d.



List No. P.H.5D/J With J" diam. long neck, •06" Single-Hole Eyepiece .. 4 3

(

- " P.H.5D/DB As above with &" dia. deep Bell, .06" Single-Hole Eyepiece 4 4 0
- " P.H.5D/FB Ditto with I" dia. flanged Bell, .06" Single-Hole Eyepiece 4 4 6
 - " P.H.5D/59 Ditto with " Midget " e" diam. Six-Hole Eyepiece .. 4 9 6
 - " P.H.5D/60 Ditto with "P.H.60" Six-Hole Eyepiece, as illustrated.. 4 15 0

This sight adapter can also be fitted to the Rifle No. 7, and Rifle No.9

N.B. Remember that its fitment and windage adjustment may render the adapter not be permissible in some Service Rifle competitions (e.g. SRa)

MODEL 5E (circa 1970)

MODEL Plus"5" MODEL 5A MODEL 5B MODEL 5C MODEL 5D



MODEL 5E APERTURE BACKSIGHT For Mauser actioned 7.62 Target Rifles

This notable addition to the World-famous range of Parker-Hale rifle sights has been initially designed to meet the requirements of the new Parker-Hale 1200 TX 7.62 NATO calibre target rifle. The 5E sight is precision made for maximum rigidity and serviceability and provides adequate windage adjustment either side of zero, ample elevation movement and



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a quick release device together with a definite, fully audible 1/4 clicking movement and clearly cut scales. A modified version suitable for No. 4 actions is available.

5E/TX With Tubular 6 hole eyepiece.

5E/4 With Tubular 6 hole eyepiece.

MODEL 6A (circa 1930)

PARKER-HALE MODEL 6A APERTURE BACKSIGHT FOR LONG L.E. AND CHARGER LOADING L.E. RIFLES



The Long Lee Enfield Rifle is still far from finished as a target weapon overseas and we have had an insistent demand for a new sight for these rifles of a similar type to the wonderfully successful Parker-Hale No. 5a sight designed for the Short Rifle.

The model 6a Sight is attached in the ordinary way utilising the screw holes by which the dumb-bell spring is attached.

It will be noticed that the eye¬piece of this model is located under the windgauge arm which allows the line of sight to be as close as practicable to the barrel axis, thereby modifying the effects of canting the rifle.

The absence of a pillar permits a wide brimmed hat to be used by a shooter who gets close up to the eyepiece when aiming.

The adjustable elevation scale plate is of our new type which leads 5 minutes when the range scale is set against the 200 Mark. We do not favour the twin zero scale plate which often reads a minus quantity due to barometrical and other changes.

Note that the windgauge scale is on top of

the wind arm. It is a mistake to cut this scale on the front, as when aiming the eye is too close to focus it and when the rifle is away from the shoulder it cannot be easily read when ones arm is in the sling. It is obvious that when the rifle is away from the shoulder ones eyes look down on to the top of the wind arm the logical place to cut the scale.

The Australian King's Prize for 1932, also the Grand Championship was won by Mr. Les Smith using his Parker-Hale model (6a Aperture backsight.

For Covered Bolt Lee-Enfield Rifles, List No. P.H.104. Price 37/6 For (Territorial) C.L.L.E. Rifles, List No. P.H.105. Price 37/6 If supplied with 6 hole Eyepieces, 4/- extra.

For enlarging holes in peep sights and foresight discs up to •120". The left-hand end is used for enlarging the hole, and the right-hand end for countersinking the back of it and so sharpens the edge for clear definition.

No. 95. Price 2/6 in Case. Post 2d.

Note the improved design for opening Long Neck Eyepiece from the rear. "I did not do too well at 500 yards, but finished up all right on the shoot through,

as I exchanged my single-hole disc for the six-hole (of which I had been doubtful previously) and found great benefit, as the light was very strong indeed."

Price List No. PH.55, with long neck for B.S.A.



List No. 58, for Lyman Receiver Sights ... 6/¬

N.B.- Also made with a lock screw to prevent accidental movement of the disc at the same price.

Other spares available at this time included a variety of eyepices and even a reamer for the apertures. Many of these eyepieces have been in use and for sale for decades, and are very familiar to even current shooters and collectors of Lee-Enfield rifles in particular.

Parker-Hale "THIN WALL" SINGLE HOLE EYEPIECES.

In future all our eyepieces will bear the A.G.P. trade mark and all such eyepieces will have an aperture wall of not more than ten thousandths of an inch, which is about the thickness of wrapping paper. A thin wall helps definition by cutting out reflections.



The Parker-Hale LIGHTWEIGHT VISIBLE SIX-HOLE EYEPIECE.



The chief reason for the introduction of this new eyepiece is the demand we have had from the famous Grimsby Central Club for eyepieces with the aperture in full view, at the same time embodying our dead centring feature whereby the positioning ball operates on the outer edge of the disk. This all can now be seen embedded in the V, which largely overcomes the prejudice that exists against our previous design.

As showing the value of the six-hole eyepiece, the following quotation is from a letter sent by a famous Canadian International. relating to shoot at the Ottawa Meeting, 1929, for place in 1930 Bisley team:

> SPARE PARTS. Each Short Fixing Screw ... Letter A 3d.

Windgauge Screw Head Letter H 6d.

Long T 3d. , Screw Lock Nut .. " H.1 3d.

Windgauge Scale Screw " G 3d.

Midget Six Hole Eyepiece List No. PH.59 5/-

Elevation Clamp Nut ... " K 6d.

Tubular Six Hole Eyepiece " " PH.60 7/6

Ditto Clamp keeper screw ... " K.1 3d.

Single Hole Eyepiece 1/2in. dia. S.N. 9d.

Elevation Screw Head ,, D.1 6d.

Single Hole Eyepiece 7/8in. dia. X. 2/¬

Elevation Screw ,, D.2 1/¬



Extract from a letter received from Mr. Les. Smith, the well-known Australian Rifleman,

holder of the highest possible record at 300, 500 and 600 yards. 18.10.29.

"As I promised I would write you later to let you know how I got on and what I thought of your Model 5A Sight; I like it very much for being so firmly built, the clicking nuts are so easy to handle and the clicks so distinct.

Another good point is that you can get 40 verniers of windage on the bar, as there are times when we have to go out to 35 to 40 verniers here at Williamstown Rifle Range. At the last Victorian Rifle Matches some were using as much as 38 verniers of windage."



MODEL 8/53 APERTURE BACKSIGHT



Windage Adapter for No.4 and No. 8 Rifles

The Service Aperture Backsight Mk. I, which is standard on the No.8 (.22) Rifle now issued, is practically useless for serious shooting. There is no provision for lateral adjustment and the aperture .I0in. is far too large for clear definition.

To replace these service sights with famous competition sights such as "Twin Zero"

Model 4/47 is expensive and funds are not always available for a big outlay. We have therefore



designed the Model 8/53 Component Aperture Sight exclusively for the No. 8 (.22) and for the No. 4 (.303) Rifles. Our reputation as makers of some of the world's finest target sights will be sufficient recommendation in the introduction of this sight with its obvious advantages, high grade workmanship and at a remarkably low price.

This sight fits on to the existing slide of the Service Aperture Sight (Mk. I) of the .22 No. 8 and the .303 No, 4. It is fitted to the slide firmly without any liability to move, by just one screw. No

part of the Service Aperture Sight or the rifle need be altered or removed. To screw the Model 8/53 Sight to the slide of the service sight is a matter of a few seconds and thereby gives an aperture sight capable of lateral adjustment to the extent of nine full minutes both ways, adjustable in half minute clicks and fitted with screw-in eyepiece interchangeable as required. This sight cancels out the existing 25, 50 and 100-yard marks on the leaf, hut the instructions provided with the sight give the approximate correct elevations.

The sight is not intended to give large windage allowances as needed on long ranges with the .303. It has been designed to provide lateral adjustment to counteract error of the rifle or firer and to give opportunity of fitting reasonable size of aperture.

Elevation movement is already provided on the service slide to which this component sight is fixed. This vertical movement is in full minute clicks which, for training purposes, is near enough and this can be halved if necessary by rotating the elevation knob of the service sight to a position between clicks.

The lateral latitude of about nine full minutes (in half minute clicks) right and left of zero on the 8/53 Sight is ample for all needs on the No. 8 Rifle. The aperture of the service sight is .l0in. - too large for most men to get a clear definition of the foresight. The aperture universally used in .22 and .303 competition shooting is .06 or, in a good light, .115. The Model 8/53 Sight is supplied with standard .05 unless otherwise ordered.

Units can economically fit up their No. 8 Rifles with aperture sights that will give them all that is necessary for good shooting. Very few aim alike and no armourer can be continually knocking over foresights to suit individual firers, but with these new sights the individual adjusts to suit his own particular error while on the mat Although designed chiefly for the No. 8 (.22) Ride, the sight is all that is required up to nine minutes of wind at 600 yards on a No. 4 (.303) Rifle. (In order to take this Model 8/53 Aperture Sight, the No. 4 Rifle must be equipped with the Mk. I Service Sight with the screw elevation.)

Cadet corps who may be using the A.J.P. " Twin Zero " Model 4/47 Aperture Sights on their No. 4 Rifles for Ashburton Competition, etc., can transfer them to their No. 8 Rifles if the existing Mk. I Sights are removed but as this new Model 8/53 is available so cheaply it is hardly worth disturbing the sighting of the No. 4's.

For those rifles which may be fitted only with the Mk. III Service Sights - i.e., without screw elevation (generally No. 4's)we can supply a limited quantity of the Mk. 1 Sights with the screw elevation and fitted with our new Model 8/53 Aperture Sight complete. (List No. 8/53M below).

No. 8/53A. Complete with 1/2in. Eyepiece

No. 8/53B. Complete with Rimbell Eyepiece

No. 8/53C. Complete with Midget Six-hole Eyepiece

No. 8/53M. Complete as 8/53A above, but supplied with a Mk. I Service Aperture Sight

ALFRED J. PARKER LIMITED, BIRMINGHAM

TWIN ZERO MODEL 3/53 and 4/47 APERTURE BACKSIGHTS

The latter figure of the model number is indicative of the year of design or initial introduction. The earliest model TZ No.1 was designed by A.J. Parker between the two World Wars. A second, the TZ 14/35 for the Pattern 14 (No.3 Lee-Enfield) rifle, was introduced a little later in 1935. The last of the TZ line was the TZ 4/80, an updated version of the 4/47 also for the No.4 rifle; all told, a period of around fifty years.

TWIN ZERO APERTURE BACKSIGHTS

The name "Twin Zero," as applied to Service rifle sights made by Alfred J. Parker, indicates that there are two zeros on the elevating scale plate, giving at the same time, zero on the vernier scale and zero on the range scale.

Earlier aperture sights had no adjustable zero and it was necessary to find by trial the correct 200 yards zero which may have been anything between zero and 25 minutes up the scale, and this figure had to be noted and memorised The range scale was then quite useless, and sometimes the 200 yards zero showed at 500 yards or near on the range scale.

The invention of the "Twin Zero " system by Mr. Alfred J. Parker eliminated these inconsistencies, and when the 200 yards zero is found the scale plate is moved by loosening of the screw on the plate and sliding it to zero position. The range scale automatically registers zero at 200 yards. This was an enormous advance in aperture sight making and the "Twin Zero " Models 4/47 for the No. 4 and 3,53 for the No. 3 both have this advantage.

Much thought has been given to these sights to assist the user. Advantages which are not apparent to everyone and some we fear are in these advanced days taken for granted. For instance, great care is taken to ensure that the scale plates are flush with each other on both elevation and wind. This is very important for reading half minutes. The screws holding the zero plates have now almost square heads which are not so easily mutilated by the use of screwdrivers as are round heads. The corners of the sights are well smoothed and free from sharp edges. When the elevating or windage knob is turned one click (i.e., half minute) the sight moves that much with certainty.

Once the zero on the vernier is set the graduations showing each 100 yards on the range scale are correct and can be relied upon with confidence.

Another perhaps unseen advantage of the "Twin Zero " Model 4/47 Aperture Sight for the No. 4 Rifle is that the rear long fixing screw which passes through the action body from the right and engages the tapped hole in the sight, actually holds the action body from spreading at the moment of detonation. This may not be clear to all but, as an experiment, if the screw is screwed up tightly it will be found that the bolt cannot be withdrawn because the action body is holding. Without the screw support, the action springs outwards on firing and it follows that the resistance of the shoulders to the bolt lugs is not so fully controlled as when held firm by this screw, and with due effect on the shooting of the rifle.

The sights have superior finish, highly polished scale plates and chemically blacked parts. At twice the price they would still be good value for money.

" Twin Zero " sights are made in two models-Model T.Z. 4/47 for the No. 4 and No 8 Rifles (with original ejector screw hole), and T.Z. 3/53 for the No. 3 (P.14 Rifle).

TZ3. TZ3a. TZ3b.

TWIN ZERO MODEL 3/53 APERTURE BACKSIGHT FOR THE No. 3 (P.14) RIFLE

Approved by the N.R.A.



The Model 3/53 " Twin Zero " Aperture Back-sight is the latest improved model for the P.14 Rifle. It supersedes the previous Models 14/35 and 3/49. The sturdiest and bestmade aperture sight for the P.14 Rifle, embodying all the latest improvements in sight design. The high quality and fine finish that has made " Twin Zero " sights famous. Definite and accurate adjustment, half-minute clicks, neat and clear scale markings, easy and definite quick release action-lever-controlled. Can be fitted without difficulty

> at home. Price £. s. d.

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Approved by the N.R.A Used throughout the U.K., Canada, South Africa and wherever the No. 4 Rifle is found. acclaimed by all who use it as the best, most accurate and strongest aperture sight ever made. Commended by M. D. Waite (Technical Editor of N.R.A. of America). Designed by Mr. Alfred J. Parker, M.Inst.B.E., and manufactured entirely at our Works.

The Model TZ 4/47 Aperture Backsight combines all the best features of fine aperture sights-automatic zero, clear scale markings, absolute precision, first-class workmanship, neat and compact design, half¬minute clicks, perfection of all moving parts. Highest quality workmanship throughout. Sturdy and accurate. Invented and designed by a professional armourer, who was also a finalist at Bisley, the Twin Zero Model 4/47 Aperture Sight is used by many of the most famous marksmen to-day.

No. TZ4. With Single-hole Rimbell Eyepiece Price

No. TZ4A. With Midget Six-hole Eyepiece .. Price

No. TZ4B. With Rimbell Six-hole Eyepiece . . Price

No. TZ40 Without Eyepiece Price

The Model 4/47 Aperture Sight is suitable also for the No. 8 (.22) Rifle if with original ejector screw hole. See also the Model 8/53 Component Sight for No. 4 and 8 Rifles. SPARE FIXING SCREWS Short Screws .. Price Long Screws .. Price

INSTRUCTIONS FOR SERVICE SIGHTS

FOREWORD

INSTRUCTIONS ON THE USE OF Parker-Hale

Everything for Shooling =



SERVICE RIFLE APERTURE SIGHTS

(FIRST EDITION) circa 1950

THIS brochure is designed to bring to the notice of target riflemen who favour service rifle shooting, the variety of aperture backsights available from the Parker-Hale range to augment or in other cases to displace the military sights. After very many years the military authorities hove arrived at agreement with target riflemen that for all service purposes the aperture backsight is a distinct improvement over old-fashioned open sights, but since the majority of military weapons are necessarily produced in times of emergency, the over-riding considerations affecting their design are first, serviceability and second speedy production. It follows that other considerations have to be sacrificed and we are thus able to offer service rifle sights par excellence; through carefully controlled workmanship combined with all those features of design which give the marksman his half minute clicking adjustments, exact graduations and a choice of various sizes and types of apertures which he finds so essential, not only to suit different conditions of light and range, but to instill that degree of confidence which enables him properly to ignore the aperture sight completely

when in the act of aiming.

As every shooter knows, there is nothing more likely to upset his concentration than his inability to have full confidence in the exactness of the clicking adjustments or in the stability of his aperture sight. The design of a sight for any service rifle calls for the exercise of considerable ingenuity, but the execution of the design lies primarily in the hands of expert finishers and it is upon these men alone trained in precision fitting "by riflemen for riflemen", that we all rely. Parker-Hole craftsmen are aware of this one important superiority which they possess by virtue of their diligence, long practice and continuous encouragement from customers who have favoured us with repeated orders over the lost thirty years.

TYPES OF APERTURE SIGHTS FOR SERVICE RIFLES

NOW that the National Rifle Association allows the use of the No. I S.M.L.E., the No. 3 Pattern '14 Enfield or the No. 4 Mark I rifle, for target shooting, Parker-Hale Ltd., have produced the models as illus¬trated, specially for these particular weapons.

It will be noted that our Model 5A and SB are of the rigid pattern with quickly detachable slide, whilst the Model 4 designed to displace the military sight on the No. 4 Mark I rifle is of the same rigid pattern inasmuch as it may be folded when out of use and is retained in the upright position by a spring plunger contacting the end of the leaf which thus permits movement on recoil and restores the leaf to its upright position when at rest. It is a little unfortunate that the accuracy with which the leaf maintains its vertical position is solely dependent upon the fit of the said plunger in its guide hole and because this component is an original part of the rifle, Parker-Hale Ltd., can have no control over this important factor when sights are supplied to be fitted by competent armourers. Thus some marksmen, mostly those who have carried out their own fitting work, sometimes not very expertly, are inclined to favour a rigid model on account of faults which could be eliminated by proper fitting work, but which undoubtedly exist through our inability to be in attendance and to supervise this very important aspect of the job.

We make it clear in our literature that in the case of the Model 4 sight, it must be so fitted as to be perfectly free on its hinge without the plunger and spring in position; that the plunger must be free but a close fit in its guide hole and that with these simple precautions properly taken, the sight will always recover its correct vertical position.

However, as a result of the demand of those who greatly favour our rigid type of sight as applied to the alternative rifles, we have applied our ingenuity and skill to the production of a similar rigid sight for the No. 4 rifle: hence our Model 5C, also illustrated, which combines all the valuable features which have been so arduously tested and proved satisfactory on its predecessors, with the cranked slide and compactness which makes for comfort in use and

serviceability for the marksman.

AIMING WITH AN APERTURE SIGHT



THE illustration gives a very good idea of the view seen by the firer when using an aperture sight. It will be noted that whereas the edge of the aperture and the fore part of the rifle remains some¬what blurred, the bulls eye on the target and the foresight appear very sharply defined. This is partly due to objects viewed through the exact centre of any suitable size aperture being in the clearest focus and this fact explains why it is a natural function to centre the foresight and object even though the aperture may be as much as 8" in diameter. As the aperture is reduced so the distinctness of the compara¬tive brightness at its centre is more pronounced. It is desirable to have facilities in the eyepiece for adjusting the aperture to the size which gives the best views according to the conditions of light and eyesight. No hard and fast rules can be laid down but it is a good tip to start with a large aperture and reduce it until the brightness of

the target is slightly diminished; then open it to the next larger size and that should give best results. Marksman are apt to believe that it is desirable to get their eye as close as possible to the aperture, but there is no sound argument to support this contention, though it is, of course, a good thing to shield the aperture to obtain the maximum degree of contrast between the view seen through it and the surrounding eyepiece; moreover, it must be borne in mind that service rifles recoil in relation to the shooter's head approximately I", and the marksman who wears glasses would do well to bear this in mind.

When taking aim the rifle should be held comfortably with the head properly supported on the stock without straining, so that the eye is centrally disposed behind the aperture which may then be virtually ignored and attention concentrated on the relative positions of the foresight and the aiming mark.

MANIPULATION OF THE APERTURE SIGHT

ALL Parker-Hale aperture backsights for service rifles bear graduations by five minutes of angle divisions. These may be split into unit minutes of angle by the correct use of the vernier scales provided. Additionally, the scale plate bears range markings from 200 up to extreme ranges. The wise marksman uses the latter as a rough guide to his correct elevations, but he uses the vernier scale for his precise sighting.

We, therefore, try to make it easy for the beginner to understand how to read the vernier scale by the following description and diagram. Once mastered it is fair to say that the range scale may be usually ignored since it is possible with the vernier scale to record in one's score book much more precise information which, over a period, will denote the maximum informa¬tion to the intelligent marksman on the behaviour of his rifle under similar and varying conditions.

HOW TO USE THE VERNIER SCALE

TO avoid continual re-zeroing of sights it is best to mark down all sight adjustments in the spaces provided on each target diagram in the *Score Book and for this reason it is desirable to learn how to read the vernier scales. Firstly, however, know that each click of the adjusting knobs moves the eyepiece .005". Two clicks, therefore, move the aperture .01" and as the angle subtended by this movement in the length of the sight radius is nearly one minute or 1/60 of a degree, it is customary to refer to each two clicks as "one minute." If this were a true minute of angle, the movement on the target per 100 yards of range for each two clicks would be 1.047" but as the angle is rather greater than one minute this movement becomes nearly 1.2" or 1 1/5".



It will be obvious that the actual movement of the sight at each "click" of the knob is only .005", so small that a vernier scale is necessary to discern the movement. Most sights are similar in this respect and the Model 5A illustrated on page 7 shows the moving elevation scale plate has divisions on the left side 5/100" apart; the fixed vernier scale has divisions 4/100" apart. The diagram below shows, by following the progress of the thickened lines how each 4/100 division is split into hundredths or "minutes" as they are usually termed. Remember, however, that most sights are "half minute clicking" and consequently the vernier will not encompass the five minute movement in five clicks as illustrated, but ten clicks will be required.

*The Parker-Hale (SR.b) Service Rifle Score Book, List No. 240A (see page 12).

WIND ALLOWANCE

INEXPERIENCED shots are very apt to regard wind adjustment as a difficulty that can be overcome only by years of open range experience. This was the case several years ago, but by using a knowledge of the correct reading of the vernier windgauge on Parker-Hale sights, by correctly "zeroing" the sight for rifle errors in the lateral plane, and with the aid of the Parker-Hale "Windicator" incorporated in the cover of their score book, or by memorising the factors of the Parker-Hale Wind Allowance Reckoner, also published in the score book, a great deal of old timers' experience may be translated by the veriest beginner into correct wind allowances in terms of minutes of angle¬. It will be noted that the windgauge is so designed that left or right hand reading from the centre line or zero is provided.

ELEVATION

The tables below give the average rises between ranges of the three service rifles using the Mk. VII cartridge with 174 grain pointed bullet and having a muzzle velocity of 2,440 f.p.s.

ENFIELD PATT. '14 (No. 3) RIFLE

1100 1200 57

54

504 62

46

401 52

34 46

271 39

191 31

101 22 114

684

65Ļ

574

FROM		то								FROM	TO								
Yds.	300	400	500	600	700	800	900	1000	1100	1200	Yds.	300	400	500	600	700	800	900	1000
200	3	61	11	16	211	271	341	421	511	611	200	3	64	11	164	224	294	374	461
300		31	8	13	181	241	311	39 <u>1</u>	481	58±	300		31	8	131	191	261	34	434
400			41/2	91	15	21	28	36	45	55	400			41	10	16	23	31	40
500			2.5	5	101	161	231	311	40 <u>1</u>	501	500		1		51	114	181	26‡	351
600					51	111	181	261	351	45 <u>1</u>	600				-	6	13	21	30
700						6	13	21	30	40	700				2.1		7	15	24
800							7	15	24	34	800			-	É		193	8	17
900								8	17	27	900					20.3			9
1000									9	19	1000					1.2	-64		
1100							-			10	1100								

S.M.L.E. (No. 1) and No. 4 Mk. I RIFLES

EXAMPLE:---

To find the rise from 500 yds. to 900 yds., take the extreme left hand column and find 500 yds.; move to the right until directly under the vertical column headed 900 yds. The number shown denotes the rise in minutes. Each minute = two clicks.

MIRAGE

THIS can be seen through a fairly powerful telescope on days when the hot air rising off the ground deflects the sun's rays. To judge wind allowance by mirage, the telescope should be arranged so that only a slight inclina-tion of the head from the line of sights is required to spot the targets or the mirage. The mirage drift should only be utilised for winds below 12 m.p.h. and it follows, therefore, that one's allowance must be kept rigidly in mind from shot to shot and must be watched between shots owing to the great variations and sudden changes of direction to which light winds are subject and which are not indicated by the comparatively heavy and inert flags.

Mirage is said to be "running" when its wavy lines of heat are slowly or quickly travelling across the target. It is known as "boiling" when it travels upwards in wavy vertical lines, which is a certain sign that aim should be taken as "zero." It is frequently the case that mirage is running in quite the opposite direction indicated by the flags, and though the drift is insufficient to move the flags it is often sufficient to cause a "magpie" if one's wind allowance is on the wrong side of zero, through judging by the flags.

POINTS TO MEMORISE

(1) Move the eyepiece in the direction you wish to move your shot.

(2) Do not fire unless your sights appear the same each time. By moving the eye up and down and to and fro you will find a bright centre in the peep through which the front sight blade will be seen clearly and distinctly.

To find the best size of apertures to suit your vision, start small and open up until the target appears as bright as when viewed over the sights; then stop down one size.

(3) To elevate, turn clockwise. To go left, turn anticlockwise; to go right, turn clockwise.

(4) Use a yellow filter on dull or misty days and a green filter to tone down glare

THE MODEL ~ 5A APERTURE SIGHT (circa 1925) For the S.M.L.E. (No. I) rifle



As is proved by the numbers in use, this non-folding sight is unsurpassable for design, workmanship and finish. The knurled knob gives a fine clicking adjustment Parker and Parker-Hale Service Rifle Sights



to the elevation slide and the complete arm is Quickly adjustable from 200 yards to 1,200 yards range, or entirely removable for safety or for cleaning purposes by operating the spin-up locking device which acts as a lock when the knurled nut is tightened by finger pressure only.

The windage arm is sturdily designed and provides six bearing surfaces for the eyepiece holder, thus minimising shake, while backlash is virtually eliminated with the latest "married" threads.

Owing to variation of shape of different makes of action bodies, the secure fixing of an aperture sight has in the past been somewhat troublesome; by providing a special boss forged solid With the base, to fit the majority of actions without filing, and a spring washer on a special fixing screw, much has been done with this model to reduce this trouble to a minimum.

The adjustable scale plates provide fully for the exact zeroing for elevation, windage, and range. the latter scale being set for a plus reading of two minutes on the vernier scale when the sight is set for 200 yards, to avoid minus figures when the elevation varies.

There is a full 40 minutes of windage movement in both directions and this important scale occupies a position on top of the bar where it has been specially placed to enable a reading to be taken when the arm is in the sling. The low build of

this sight is specially appreciated on ranges similar to Bisley, where a setting sun can only be shut out by the use of a broad brimmed hat, this practice being difficult with any sight having a high pillar.

DIRECTIONS FOR FITTING:

(1) Remove from the rifle the dumb-bell shaped spring, the safety catch disc, and the rearguard screw.

(2) Put the coil spring on the axis of the safety catch, slip in the long rearguard screw and fix on the sight by means of the short fixing screw, then tighten up the long rearguard screw,

(3) As part of the action on which the sight has to be fixed is not gauged it may be that the sight will not stand vertical and/or square. It is possible readily to correct this by using paper or card packing between the action body and the sight in the region of the short fixing screw. Alternatively tile boss on the bed of the sight can be adjusted to suit the action body by filing.

THE MODEL ~ 5B APERTURE SIGHT For the Pattern '14 Enfield rifle

BASED on the design of our famous Models 5A and 6A aperture sights for Lee Enfield rifles, this Model 5B is even better adapted for the Enfield Pattern '14 (No. 3) rifle as it needs no special fitting and no extra parts are required to fit it; moreover it is far less vulnerable to damage, being largely protected by the original aperture sight fences.

All the features that have made the other models so satisfactory are included, viz.:

Forty minutes of windage adjustments either side of zero, quick release for the slide, sharp half-minute clicking movements and clear, easily read adjustable scales, combined with a strong simple quick release movement for the slide, with a spin-up locking device that cannot strain the elevating screw.



DIRECTIONS FOR FITTING.

PARKER - HALE LTD

Remove from the rifle the short range sight axis screw and the bolt stop axis screw which will also release the long range aperture sight. If the stem has been cut off, read "stud."

Replace the bolt stop, press back the bolt stop spring and slip the grooved foot of the sight block under the spring until the lower stud finds its way into the long range aperture sight axis hole. When both studs are in place secure the sight by means of the thin sight axis screw, without using force that will stretch and break the screw.





sights have a neat adjustable windgauge scale plate.

It has the usual vernier elevation and windgauge movements. combined with distinct halfminute clicks; the six-hole eyepiece shown gives a choice of six apertures from .03° to

It is a part of the design that this and its military counterpart are sights pivoted and retained in the up or down position by the action of a spring-loaded plunger operating on the foot of the leaf. On recoil the sight is forced out of the vertical position but recovers due to the operation of the spring and plungers. Complete freedom of movement at the hinge is essential and this can be assured by careful fitting in the first place and a simple test may be imposed by pushing the sightt forward approximately 10' and allowing it to recover its vertical position, noting the complete absence of friction and the recovery of the sight to the correct upright position.

Since these sights must of necessity be fitted to rifles made under the stress of war con-ditions in various factories, it may be necessary to ease the excess metal from the pivotal points on the rifle; another feature to note carefully is the fit of the plunger in its guide hole. With proper attention paid to these details this Model PH.4 sight need never be blamed for its short-comings as an aperture sight of excellent merit and serviceability.

DIRECTIONS FOR FITTING:

Fitting is an extremely simple matter. Being designed to displace the service aperture sight, the PH.4 is fixed by removal and replacement of original sight axis pin.



MODEL THE 5C APERTURE SIGHT Rigid Model For rifle No. 4 Mk. I

> WHEN the No, 4 rifle was first permitted for use under N.R.A. conditions it was realised that a type of rigid sight similar in all essentials to our Model 5A would be required. At that time, however, materials were in very short supply and forgings were quoted with "impossible" delivery dates. As a result of our collaboration with a Government Design Department we were more ready to consider production of an alternative to enable No. 4 rifles to be used in quantity in SR(b) events: thus our folding model PH.4 was evolved.

> The late Mr. Eli Keeling, our old sight pattern maker, known to hundreds of pre-war Bisley men, continued to press for a rigid model such as he anticipated by a 1945 conversion of a Model 58 sight, and since those early post war days much has been done to

> build into the PH5c the greater experience which we have achieved with former models on different rifles. As the illustration shows, both windage and elevation scales run on sturdy dovetail slides ; the scales, which can both be zeroed, are easy to read,

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and the whole sight hugs the side of the receiver in a most reassuring manner.

The staggered wind arm brings the eyepiece to a position right over the cocking piece and the deeply knurled operating knobs make positive clicking movements easy to identify on even the coldest days.

DIRECTIONS FOR FITTING:

(1) Remove the regulation rearsight, sight axis screw, plunger and spring.

(2) Remove the regulation ejector screw.

- (3) Place the Model SC sight on the left side of the action body so that its fixing screw holes are opposite the axis csrew hole and the ejector screw hole respectively.
- (4) Drive home the screws, the ejector screw from the left hand side, and the other from the right.

N.B.-Be careful to preserve the displaced parts which will be needed when the rifle is required to be used "as issued."

EYEPIECES

For use with aperture sights



THE only other feature of the sight to which attention need be drawn is the six-hole eyepiece; for a minority the six-hole eyepiece is "out" but we cater for those who are prejudiced by making a range of single hole eyepieces. Whatever reasons may be advanced to support the preference of this minority for a series of eyepieces with varying aperture sizes to be screwed out and in according to prevailing light, we as manufac¬turers and users can reassure our readers of the reliability and efficiency of the modern six-hole eyepiece of our manufacture.

"DEAD CENTRE" SIX-HOLE EYEPIECE

The methods that are adopted for making a finished job after assembly ensure the feature of perfect centralisation which is implicit in the name "dead centre." In our eyepieces we provide a range of aperture sizes sufficient to cover the needs of all marksmen, viz.: .03", .04", .05", .06", .07" and .OS". An inexperienced shot tends to use the smallest aperture, under the mistaken impression that he will minimise errors of aim. This supposition is not borne out in practice chiefly due to natural laws particularly relating to the eye. The main consideration affecting the size of aperture is definition of foresight and target, which incidentally cannot both be in focus together. Under bright conditions, quite a small aperture will give excellent definition without too much loss of light. Under dull conditions, a little loss of definition is inevitable because a larger aperture is needed to pass sufficient light. In conditions of restricted illumination the natural habit of the eye is to seek maximum light, which normally is obtained by centreing

the object seen through the aperture.



SIX-HOLE TUBULAR EYEPIECE WITH "DEAD-CENTRE" FEATURE AND ACCOMMODATION FOR GLASS FILTER. (Now permitted under N.R.A. Rules).

PARKER-HALE'S (SRb) SERVICE RIFLE SCORE BOOK

USE OF THE SCORE BOOK



IN smallbore shooting the rifleman has each series of shot holes in his target continually in view and is thus enabled to observe the build-up of his group; except in special circumstances the target is afterwards available for further assessment.

These conditions do not obtain in service rifle shooting, as each successive shot hole is patched out immediately its value has been signalled, therefore no record is available unless plotted

there and then in a score book. In

such circumstances the possession of a properly designed score book is of paramount importance. To be of value it must be regularly and conscientiously plotted for each shoot; a rifleman is thus enabled to build up a record of his skill and of his rifle's performance.

He can, at his leisure analyse his shooting and discover his errors so that in succeeding shoots he will be able to make corrections. The score book illustrated above provides the rifleman with all those features which in our long experience are most desirable.



PARKER-HALE APERTURE SIGHTS For small bore target rifles

In addition to the service rifle aperture sights dealt with in this booklet we manufacture a comprehensive range of precision aperture sights for smallbore target rifles, and many makes of sporting rifles.

The illustration shows our Model 7A which has become practically standard equipment on most British made smallbore target rifles; this sight has bean adopted by B.S.A. (Guns) Ltd. for their famous Martini action .22" cal. target rifles, Model 12, I S and Model 13, which may be taken to imply that no better equipment of this type can be found.

PARKER-HALE'S SPORTARGET` SIGHTS For sporting rifles

The "Sportarget" is an all British aperture sight of sporting appearance with all the attributes of an expensive target sight. Due to the long and careful thought given to the design it can be readily adapted to fit a large variety of sporting rifles. We illustrate the Model PH 16E selected at random; this particular model is made to fit on the dovetail of the .22" cal. Mauser bolt action rifle by means of a single set screw and clearly shows the general construction of this type of sight.

Over the past 50 odd years our aim has been to produce or factor every¬thing that the user of rifle, pistol or shot gun is likely to require. In pre-war times we were justifiably proud of our ability to supply "Everything for Shooting." Under present day conditions we find it more difficult to carry out this slogan to the letter. We are, however, able to offer a most excellent range of alt the best available arms



and shooting accessories which are fully described and illustrated in our general catalogue. This is probably the most comprehensive publication of its kind in the trade today. In addition to listing hundreds of accessories there are interesting technical articles by practical shooting men and a best of useful hints and tips. This catalogue has become universally known as

• Full details of the complete range of aperture sights manufactured will be found in our General Catalogue



VERNIER SIGHTS

HOW TO READ THE VERNIER SCALE and ADJUST THE APERTURE BACKSIGHT

To correct shots hitting high or low of the bulls eye, adjustment up or down of the aperture sight is necessary, and the effect of this is to raise or lower the butt in the shoulder and thereby lower or raise the muzzle.

If shots are hitting the target low, the aperture backsight must be raised by screwing the elevation knob clockwise and vice-versa if shots are high

The vernier scale is used to divide each division of the stationary scale into fifths. In modern .303 aperture backsights there are two clicks to a minute, i.e., one-fifth of a division, and in modern .22 aperture sights there are four or eight clicks to a minute. A division represents one-twentieth of an inch. Therefore, to raise the sights one-hundredth of an inch, it would require two clicks on a .303 sight or four or eight clicks on a .22 sight.

A. J. P. "Twin Zero " aperture backsights are fitted with adjustable scale plates so that the rifle can be made to read zero at 200 yards. To do this the rifle should be taken on to the range and the sights elevated until hitting central at 200 yards, after which the movable elevating scale plate should be pushed up or down until the zero mark coincides with the zero mark of the vernier scale.

To raise the sights for longer ranges, turn the elevation knob clockwise 11 minutes (22 clicks) for 500 yards, etc., etc. These modern .303 sights are also marked with range scale and, if the rifleman prefers, lie can disregard the vernier scale and, after once correctly zeroing the rifle at 200 yards, the range scale readings will be found correct for longer ranges, except for effects of " twelve " and " six o'clock " winds.

Likewise, lateral or windage adjustment of the sight is made by winding the right-hand knob of the sight clockwise to correct shots left of the bull and anti-clockwise to correct shots hitting right. The windage vernier is divided in the same way as for elevation and gives the same value on the target - two clicks per minute on .303 sights, the minute being one-fifth of a division. The vernier, of course, reads left and right of the central zero for right and left wind. This zero plate can be adjusted to read zero with the vernier scale in the same way as for elevation zero.

The .303 rifleman should equip himself with a good score book, the target diagrams of which are accurately laid-out in minute squares. Shots should be plotted carefully and sight changes recorded and every advantage taken of the diagrams which are planned to simplify the mastering of modern precision sights. Such score books contain elevation details, wind charts and other useful information. Alfred Parker Score Books with diagrams to the latest N.R.A. Bisley dimensions are included in this Catalogue.

See also "USING THE VERNIER SCALE"

RIFLE SIGHTS - GENERAL - 1962

RIFLE SIGHTS

To summarise this subject briefly and as an introduction to the following pages is to do less than justice to the matter, but in our Book Section are many sources of further information, quite apart from our own detailed instruction booklets and sight leaflets.

No rifled weapon designed to fire single bullets, as opposed to smooth bore shotguns, is complete without adequate sighting equipment. These sights fall into several categories, viz:-metallic (" iron ") or optical (embodying the employment of lenses): the former are sub-divisible as open or aperture sights, and again as sporting or target types. The latter fall into main classes viz. the nowadays rare low magnification lens foresight used with a clearing lens screwed into the aperture rearsight, and the telescope sight, which again may be sub-divided into sporting and target types.



Open sights lend themselves to very cheap production, and because rifle makers generally avoid concerning themselves with the individual tastes of consumers as far as sights go, most rifles are offered with the least expensive sights that suffice to render the weapon complete and usable.

It would be very, convenient if open sights gave the kind of clear picture to the shooter that sketch No. I depicts, where the object, foresight and backsight are shewn, all in clear focus, but unless one's eye muscles are unusually active, the accommodation of the average man's sight is such that two of the three important items depicted will appear indistinct in practice By employing an aperture fairly near to the eye and of a suitable size, as a substitute for the open backsight one can eliminate some of the eyestrain, for there remains only the object and foresight to focus, since the aperture can be ignored and the field of view is less obstructed as sketch No. 2 shows. Simple optical arrangements employing a magnifying front lens are of doubtful value since the magnified field of view is extremely restricted and sharp focussing demands the selection of an aperture size and a clearing lens specification to suit the individual.

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The complete answer is only to be found through the employment of a telescope sight, in which the advantages of appreciable magnification greatly enhance clarity of vision, needle sharp focussing of the sighting element in the same plane as the object-adequate field of view and minimum obstruction are all to be found, but at a price. Nevertheless, 'scope sights have continued to gain popularity through the years because they really fill a genuine need, since

they eliminate inaccuracy and rejuvenate the elderly shooters' prospects where interest naturally wanes with failing eyesight: we have helped to maintain and encourage this trend through our manufacture of mounts that provide the essential link between rifles and telescope sights, particulars of which may be found in the pages that follow.



Because open sights are normally supplied by rifle manufacturers we do not make our own, but we hold stocks of a varied assortment to enable us to give service in this connection. We can make to special order, but as costs of such handwork are disproportionately high, we usually suggest a more modern and often less expensive alternative through the purchase of an aperture sight.

In the following pages will be found a fairly comprehensive line of aperture sights for both target and sporting rifles. So far as is practicable the features that have made our name well known in the fraternity of target shooters have been simplified and embodied in our sporting rifle aperture sights, viz: rigidity, accuracy and serviceability. In the repair and reconditioning of small calibre training rifles at the request of the Ministry of Supply we fitted many hundreds of our " Sportarget " sights. By contrast with the original factory sights these are currently with¬standing the rigours of service use.

We accord pride of place amongst our aperture sights to those which we produce for service rifle shooting under National Rifle Association rules, only because we have been designing and making improvements in these models for the greatest length of time. We started manufacture in 1919. During the year 1953 we came to an agreement with the Department of Defence of the South African Government, to whom we have supplied many thousands of service rifle aperture sights, entitling their South African factory to manufacture our models and recognising our interest therein. Latterly we have produced, we believe, the perfect answer by way of a serviceable competition, finely adjustable backsight, for the Canadian, Belgian and British variants of the NATO rifle.

MODEL No.9

Below are details and fitting instructions on the BSA Parker No.9 aperture target rear-sight



Above: The Model 9G sight fitted to a C.L.L.E. (Charger Loading Lee-Enfield). The mounting plate is the Parker No.SP.3 for the 'Long' Lee-Enfield Rifle, requiring drilling and tapping of the lower rear screw hole in the butt socket. See details relating to sight and rifle marques below. It is just possible to distinguish th triangular logo of A.G. Parker (AGP) within the name of their "BISLEY WORKS", on both the sight frame and the mounting bracket.

The above rifle started life as a Victorian L.E. Mk.1 (L.E.1) of 1897 manufactured by what was then the B.S.A. & M. Co. (Birmingham Small Arms and Metal Company). It was converted, in 1908, to a C.L.L.E. Mk.1*.

Whilst really a full-bore service rifle sight, it is occasionally found fitted to early .22 Long Lee-Enfield and Short Lee-Enfield training cum target rifles. It was also one of the sights, in its earlier marks (e.g. the 9C being the 1912 model), used early in the Great War (1914-1918) for what could loosely be called "sniping" by marksmen, often those with prewar target rifle experience, prior to the initial introduction of telescopic sights circa 1915.

Below is an image of the rifle with the sight folded down to permit use of the open service sights.



The Model 9G sight was advertised in the Parker and Parker-Hale catalogues, as below in 1936, right through from its inception early in the Century up to the mid 1930s - more than ten years after the introduction of its successors, the Model 5A, brought out in 1925, and the later Model 6A and "Twin Zero" sights. The 1936 advertisement is vitrually identical to that of 1925.

The various mounting brackets that were available are shown below, with mention that some are suitable for use with the earlier Model 9C.



when aiming, but those whose shooting position is well to the rear of the cocking piece would be better suited with the "Close-up" plate which brings the aperture $\frac{3}{4}$ of an inch nearer. For left hand men especially it can be recommended as they naturally escape the consequences of getting too close to allow for the recoil of the rifle.

PARKER'S SIGHT PLATE for Long Lee Enfield Rifles.



PARKER'S SIGHT PLATE for Long Lee Enfield Rifles.

Supplied with long fixing screw, short fixing screw, dumb bell spring screw.

List No. S.P.3. Price 5/-

PARKER'S SIGHT PLATE for Mauser Rifles.

This Plate is fixed on the woodwork of the rifle, just clear of the Bolt Release by means of four buttress thread screws, and it makes a perfectly firm base for the Sight. It is supplied with four buttress wood screws, dumb bell spring and screw.



List No. S.P.5. Price 8/-

List No. SP.4

PARKER'S "CLOSER" PLATE for Long Lee Enfield Rifles.

This can only be used by left handed men and by those for whom the standard butt is somewhat too long. It brings the Sight 11 inches nearer the eye than the Standard sight plate. We supply it with a Spin-up sight locking screw, extra long rearguard screw, and special fixing screw for hole in centre. List No. SP.4. Price 6/-

PARKER'S SIGHT PLATE FOR SPRINGFIELD RIFLES.

The great advantage of this plate is that it permits the sight to be fixed to a U.S. Government Rifle without tapping or drilling the receiver.

We supply an extra long fore end screw "A" and an extra long bolt stop Axis Pin "B" by means of which the plate can be very securely fixed. List No. S.P.6. Price 12/6

The sight came in a box as below (Thumb screw missing)





THE PARKER-B.S.A. No. 9G APERTURE BACKSIGHT AND HOW TO USE IT. BY A. T. C. HALE (MANAGING DIRECTOR OF A. G. PARKER & CO. LTD.) NOMENCLATURE OF PARTS. AA Short fixing screw and aperture Eyepiece holder. sight fixing screw. Windgauge slide. 0 Ř Extra long rearguard screw. Windgauge screw lock nut. Н Zero adjustment screw. S Elevation leaf. Single hole eyepiece. T Windgauge arm. ĸ Windgauge arm spring. U Spin-up lock nut. Dumb-bell spring. Elevation slide stud (patented) Τ. \mathbf{v} М Elevation screw lock nut. Sight plate for S.M.L.E. Rifle. w Elevation screw head. N Elevation slide. v Ô Windgauge screw head. EE that the sight is fitted securely and that the pillar "S," which normally leans slightly forward because it is part of the arc of a circle,

She that the sight is inter securely and that the pinar of, which normally leans slightly forward because it is part of the arc of a circle, does not lean sideways either inwards or outvards. Check this by aligning it with the open backsight, first at 290 yards and then at 1,000 yards elevations. If the foresight is fairly centred in the "U" notch of the open backsight at both distances all is well.

Test the rifle with sight at zero on a calm day at 200 yards, or on a 25 yards zeroing range should one be convenient.

Move the windgauge nut "O" until the bullets group centrally on the target. It will probably be found then that the windgauge zero marks do not coincide.

Prov. Patented 7088/25.

To remedy this loosen the set screw "H" and move the adjustable scaled sleeve "Q" until the zero marks meet; then tighten up the set screw "H" firmly on to the stem of the eyepiece holder "P" again. Ascertain correct elevation at 200 yards by means of practice shots, and make a note of it in the appropriate place in your score book.

The fixed elevating scale marked on the pillar "S" has divisions 5/100ths of an inch apart. The moving "Vernier" scale attached to the slide "N" has divisions 4/100ths of an inch apart.

In order to make exact entries in one's score book it is almost necessary that the shooter should understand how to read the Vernier scale. The following diagrams show better than any detailed explanation how to split up the 5/100ths divisions into 1/100ths by following the progress of the thickened lines on the diagram. The top scale is the one that is moving. Note the progress of the thickened lines, showing how a division is split up into 1/100ths of an inch or "minutes" as they are usually termed.



As one minute movement of the aperture sight has the effect of altering the aim when using the Short Service Rifle by $1\frac{1}{5}$ inches per 100 yards of range (= $2\frac{2}{5}$ inches at 200 yards), it needs a somewhat finer adjustment than one minute to meet the case.

Each minute, therefore, is divided in $\frac{1}{2}$ minutes by a distinct clicking device on both the elevation and windgauge screw heads "O" and "M."

When moving to the next distance, say, 300 yards, on consulting the elevation table in your score book you will find that the rise is given as 3 minutes -6 clicks.

Presuming your elevation at 200 yards is 15 minutes, your scale should indicate 18 minutes at 300 yards, or, alternatively, it would be sufficient to move the screw head 6 clicks in the clockwise direction.

On moving from 300 to 500 yards the elevation table for the Short Rifle and Mark VII. Ammunition shows a rise of 8 minutes-16 clicks.

At this range wind deflection becomes very noticeable. By consulting the Parker-Hale Wind Allowance Reckoner, the necessary number of minutes to move the Windgauge scale from zero can easily be ascertained. The Windgauge Scale "T" is read in exactly the same manner as the elevation scale, and the clicks also indicate $\frac{1}{4}$ minutes of movement.

The spin-up sight locking device "U" should only be clamped up against the spring when the sight is in use. When the sight is closed down it is better for the screw to be slack, thereby avoiding accidental damage by allowing the sight to give way when struck.

POINTS TO MEMORISE.

 Adjust your peepsight in the direction you wish to move your shot.
 Do not fire unless your sights appear the same each time. By moving the eye up and down and to and fro you will find a bright centre spot in the peep through which the front sight blade will be seen clearly and distinctly. (An eyepiece with 6 holes of different sizes can be substituted for the single hole cyepiece "J.")

and the envelope, containing the selected mounting bracket, and carrying the fitting instructions for same.



Below is an advertisement for the Model 9C reproduced from Alex Martin's catalogue ca 1914



The elevating mechanism of the B.S.A. Parker Sight leaf consists of the screw G, which has a square thread of rapid pitch. Coarse or fine adjustments may be made at will. The leaf is traversed from side to side by turning the screw head F. The vernier scale place H may be adjusted either to the left or to the right so that the lateral zero of the sight may be correctly set to the zero of the rifle. The aperture disc E may easily be taken out by removing the screw shown just above it. A vernier scale is provided for elevating as well as lateral movements. Each minute (or near r. The versuer scale place **H** may be adjusted either to the left or to the right so that the lateral zero of the sight may be correctly set to the zero of the rifle. The aperture dice **E** may easily be taken out by removing the sorrew shown just above it. A versier scale is provided for elevating as well as lateral movements. Each minute (or "'degree ") of lateral adjustment is marked by the clicking of a spring. The mounting admits of the bolt being removed for cleaning.

Below is a replication of a page from the BSA 1912 catalogue, showing the Model 9C and, below that, the equivalent page from the 1909 catalogue, showing the original Model 9 and its own mounting arrangement (and the early Model 8 folding sight).





FORESIGHTS

More often used on .22 RF calibre Target Rifles, but not unknown on full-bore rifles.

The Parker's sights

Below is the A.G. Parker (eventually Parker-Hale) No.2 Tunnel fore-sight introduced circa 1930 and utilised, in similar format, right up to the demise of the BSA International TARGET RIFLES in the mid 1980s. The design, with interchangeable ring and blade elements, was imitated by many foreign manufacturers over the following seventy years or more.



We believe this to be the world's best Interchangeable Disc foresight because it possesses all the advantages of its predecessors plus the Quick Change Slot.

It is quite obvious that a change of sight often needs to be made when one is already shooting and has little or no time to waste.

To be obliged to move the disc from the end of the tunnel takes too long. The screwed sleeve may be lost whilst the new disc is being replaced, and everyone knows how difficult it is to place a thin disc in position in a tube. It goes in at all sorts of angles and gets one hot and bothered when it is most necessary to keep cool.

The Parker-Hale Quick Change slot guides the disc into its proper place and exchanges can be made in a few seconds.

Seven discs go with each sight as shown in the illustration, plus a "level" which can be used in conjunction with the ring or blade.

They are pressed from pen steel and are matched so exactly that an exchange in the middle of a shoot would occasion no resetting of the backsight.

List No. FS20 for Vickers rifles (including Spare Disc Box to screw on to fore-end)



List No. FS21 for B.S.A. rifles with foresight block, etc. List No. FS22 for B.S.A. rifles with dovetail in barrel, etc.

> One of the obvious troubles with Interchangeable Foresights is the difficulty of keeping the spare discs in an accessible place. As will be seen by the illustration we have solved this by means of stout brass disc to be fastened on to the fore-end, on to which the disc box is screwed.

Price

7/6

post 2d.

The best place on the rifle for this neat accessory is on the rear end of the fore-end, just ahead of the rear sling eye.

As this container is suitable for sight elements belonging to other types of foresights we will supply it separately with screw for fixing.

> List No. D.B.1. Price 1/- Post 2d.

http://rifleman.org.uk/PH_Service_sights.htm (36 of 38)5/17/2007 6:43:22 AM

Parker-Hale quite probably manufactured sights for BSA at a point earlier than might perhaps otherwise be assumed. They developed a very close association with the Birmingham Small Arms Company over many years, and it is quite possible that they manufactured sights carrying the BSA logo rather than their own. By the time BSA introduced the Martini International target rifle in 1950, all the sights for these rifles were provided by Parker-Hale and so marked.

See also some equivalent sights by the famous Westley Richards company.

and the Parker-Hale "Targetscope"

and, lastly, A SIGHT FOR SORE EYES, the 'must have' for the No.4 pundit



Illustration shows part of butt only - the actual article is complete with butt and butt plate.

No Training Establishment can afford to be without one of these instructional actions.

A large ex-Government purchase enables us to offer them at a ridiculously low price. The action consists of the complete rifle mechanism as illustrated, also butt complete with butt plate and about 8 in. of

barrel. The working parts are exposed by machined " cut aways " of body, bolt and

magazine and these " cut aways " are outlined in red. They are the official Government pattern skeleton actions, offered at a fraction of their original cost.

No. SK4. Skeleton Action of Rifle No. 4.. Price each We can also offer a few Skeleton Actions for Rifle No. 1 Mk. III. These are similar in specification to above. No. SKI. Skeleton Action of Rifle No. 1.. .. . Price each

See also the Parker-Hale CMT rifles , the Parker-Hale Dewar rifles and ParkerRifling, A.G and A.J. Parker and Parker-

Hale

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Parker and Parker-Hale Service Rifle Sights

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