

B.S.A. RIFLES & RIFLE SIGHTS



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BIRMINGHAM - - - Small Arms Factory, Small Heath.
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A Catalogue

(Fifth Edition).

OF

MILITARY RIFLES,
TARGET MATCH RIFLES,
HIGH VELOCITY SPORTING RIFLES,
MILITARY AND SPORTING CARBINES,
B.S.A. PATENT RIFLE SIGHTS,
B.S.A. .410 BORE SHOT GUNS,
B.S.A. AIR RIFLES,
WAR OFFICE MINIATURE RIFLES,
B.S.A. MINIATURE BOLT RIFLES,
MARTINI MINIATURE RIFLES,
TUBES FOR SPORTING SHOT GUNS,
&c.,

Manufactured by

The Birmingham Small Arms Co. Ltd.

*Also Manufacturers of the Celebrated B.S.A. Cycles and Specialities,
— B.S.A. Motor Cars, and Engineers' Small Tools. —*

AGENTS in all the PRINCIPAL TOWNS of the COLONIES and FOREIGN COUNTRIES.

THE BIRMINGHAM SMALL ARMS CO. LD., BIRMINGHAM, ENG.

Makers of Rifles for H.M. War Department and of the famous B.S.A. Cycles and Motors



Military and Sporting Rifles,
GAUGES AND .410 SHOT GUNS.

B.S.A. Rifle Sights.
OPTICAL, APERTURE & OPEN.

B.S.A. Air Rifles
AND PELLETS.

Miniature & Mid-Range Rifles
TARGET AND SPORTING.

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Introductory Notes.

Which should be read carefully by the rifle user and by the prospective purchaser.

ORDERING RIFLES.

As manufacturers we trade through the regular wholesale and retail gun and rifle dealers only. Target Rifles, .303 bore, are tested at the factory at 100 yards for grouping and alignment only (see pages 11 to 13). The expert rifle dealers—who make a speciality of target rifle work—are skilled shots, qualified to take a rifle straight from the manufacturer, shoot it through all the ranges, mark the sights exactly for each range, make the one or two delicate zeroing adjustments which may be necessary, and adapt the rifle for Bisley and range work generally. These experts attend the Bisley and other rifle meetings, are well-known to the majority of riflemen, and will readily guarantee in every respect all B.S.A. rifles sold by them. If difficulty is experienced in getting into touch with a dealer, rifle buyers are requested to write us.

PACKING AND DELIVERY.

When not obtainable locally, new complete rifles are packed and delivered free by us to any place in the British Isles. Customers must pay for packing and carriage on rifles repaired, re-barrelled or converted. The delivery sheet should be marked "not examined" when parcels are delivered by the railway company. The goods should then be inspected carefully, and if found to have been damaged in transit notice should be sent at once to the carriers and to us.

RIFLE BUYERS ABROAD.

Our rifles are sold by the retail gun trader in most towns in the Colonies and foreign countries. When difficulty is experienced in securing the aid of such dealers, orders should be sent direct to us with a remittance. Rifles for abroad are delivered free on board ship at any English port. Packing (tin or pitch paper lined) is charged extra at cost price. Freight and duty are charges which must also be borne by the purchaser. For foreign money and weight values, etc., see page 4.

REPAIRS.

We repair rifles of our own manufacture only. Rifles for repair should be packed securely and sent carriage paid, addressed to "The B.S.A. Company Limited, Rifle Department, Small Heath, Birmingham." When a part only has to be renewed it is best always to send the old part, or a rough sketch of it. Where possible the local gunmaker should be consulted, as he may be able to effect the repair at once, so saving time and expense. The postal regulations limit parcels to 11lb. in weight, 3ft. 6in. in length, or 6ft. in length added to girth. It will generally be found convenient to send rifles by rail.

EXCHANGE.

We have no means of disposing of second-hand rifles, and cannot, therefore, take them in part payment for new rifles. They should be offered to the local retailing gun dealer, who will usually be found ready to bargain.

AMMUNITION.

We do not make or supply any kind of ammunition with the exception of "Adder" Pellets, which are specially made for the B.S.A. Air Rifle. It will generally be found that the retail gun dealers are well informed regarding the supply of cartridges, and they should always be consulted when difficulty is experienced. When sending specimen cartridges to us, it must be borne in mind that *it is by law a punishable offence to send them through the post.* They must be sent by rail, packed in a strong box, and declared "Safety Cartridges, Division 1, Class VI."

GUARANTEE B.S.A. QUALITY.

All B.S.A. Rifles are very carefully gauged and viewed in every detail, and are thoroughly tested for accuracy of shooting. Rifles passed as perfect in every respect only are sent out of the factory. Should there be any cause for complaint, particulars should be sent to us at once, so that the case may be investigated fully, and if need be, the rifle returned. The B.S.A. Trade Marks here illustrated constitute a guarantee in themselves when they are stamped on a rifle. "B.S.A. quality" is of world-wide fame.

CHANGE OF PRICES.

The prices set out in this list are subject to alteration without notice.

THE BIRMINGHAM SMALL ARMS CO. LD, BIRMINGHAM ENG

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Gun or Rifle Licenses.

The following are exempted from payment of gun license duty:—

- | | |
|---|--|
| 1. Regular Soldiers Territorials, Cadets, &c., when at duty or at target practice. | 5. Gunsmiths or their servants for trade purposes. |
| 2. Holders of game licenses. | 6. Carriers in the ordinary course of their trade. |
| 3. Persons carrying a gun by order of, and for the use of, an authorized person (address to be supplied on demand). | 7. Members of rifle clubs duly affiliated to the N.R.A. or S. of M.R.C. in connection with range practice. |
| 4. Persons scaring birds or destroying vermin under proper authorization. | |

A rifle may, it is understood, be used in a dwelling house or the curtilage thereof (the area included within the fence surrounding a dwelling house), without payment of gun license duty.

Those coming under Clause 7 may carry a rifle either with or without a cover.

The term "gun" means a firearm of any description, and it includes air rifles, guns, or any other kind of gun from which any shot, bullet, or other missile can be discharged.

Rifle Clubs and Affiliation.

For particulars of Rifle Club formation and of affiliation of such organizations, applications should be addressed to Lieut.-Col. C. R. Crosse, Secretary National Rifle Association, Bisley Camp, Brookwood, Surrey; or to the Society of Miniature Rifle Clubs, Arundel Street, Strand, London, W.C.

Foreign Money, Weight and Length Values, etc.

MONEYS:

American ..	24c.	=	One Shilling.
French 1 Franc	25c.	=	Do.
German 1 Mark	OPf	=	Do.
Dutch ..	60c.	=	Do.
Italian 1 Lira	30c.	=	Do.
Indian 1 Rupee	..	=	1s. 4d. approx.

WEIGHTS:

1 Grain ..	..	=	0.0648 Gram.
1 Ounce (437.5 grains) ..	..	=	28.350 Grams.
1 Pound (16oz. or 7,000 grains) ..	..	=	453.6 Grams (or 453.6 Kilograms)
1 Hundredweight (112lb.) ..	..	=	50.8 Kilograms.
1 Ton (2,240lb.) ..	..	=	1016 Kilograms

INCH FRACTIONS IN DECIMALS:

$\frac{1}{16}$ in. =	015625 ..	$\frac{3}{16}$ in. =	0375
$\frac{1}{8}$ in. =	03125 ..	$\frac{1}{2}$ in. =	500
$\frac{3}{16}$ in. =	0625 ..	$\frac{5}{16}$ in. =	625
$\frac{1}{4}$ in. =	125 ..	$\frac{3}{4}$ in. =	750
$\frac{3}{8}$ in. =	250 ..	$\frac{7}{8}$ in. =	875

LENGTHS:

1 Inch ..	..	=	2.54 Centimetres.
1 foot ..	..	=	30.4799 Do.
1 yard ..	..	=	914.399 Metre.
39.37 inches ..	..	=	1 Do.
1 Millimetre ..	..	=	0.0394 Inch.

Calibres in Millimetres and Inches of various Foreign

Military Rifles.

6.5 mm Dutch Italian, Roumanian, and Greek "Mannlicher," Portuguese "Mauser," and Japanese "Year '38" ..	256 ins.	7.65 mm Belgian and Turkish "Mausers" ..	301 ins.
7 mm Spanish "Mauser" ..	276 ins.	7.7 mm British "Lee-Enfield" and Canadian "Ross" ..	303 ins.
7.5 mm Swiss "Schmidt-Rubin" ..	295 ins.	7.9 mm German "Mauser" ..	311 ins.
7.62 mm Russian "3 line Nagant" and U.S.A. "Springfield" ..	300 ins.	8 mm Austrian and Bulgarian "Mannlichers," French "Lebel," and Danish "Krag-Jorgensen" ..	315 ins.

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Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Rifles and Rifle Sights.

Many thousands of rifles of all kinds for all purposes are turned out annually by The B.S.A. Company. During the 51 years of its existence some millions of B.S.A. muzzle and breech

The extensive manufacturing facilities of The B.S.A. Company.

loading military rifles have been supplied to the British and other Governments. In one year alone 105,000 Lee-Enfield Rifles have been turned out of the factory for H.M. War Department. Quite recently 70,000 .310 bore Cadet Rifles were produced in fifteen months for the Australian Commonwealth Government—a remarkable achievement, considering that during the same period there was a great output of ordinary military rifles for the British and Colonial Governments, as well as of sporting, miniature, and air rifles for the rapidly increasing general trade.

Government military rifles are made under the supervision of a large staff of Government "viewers," whose duty it is first to test the material physically and chemically, and then to gauge every part during the manufacturing processes. The barrel, for instance, is viewed and gauged ten different times between first and last operation. A variation of one thousandth part of an inch from the correct dimension often means the rejection of the whole component. In the manufacture of the present pattern British Service Rifle nearly 700 different gauges—some very costly—are used to check accuracy of manufacture. The gauges are made true to standards, which are correct to one ten-thousandth part of an inch to the dimensions laid down.

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These rigorous conditions have formed the foundation of the wonderful B.S.A. system of viewing applied in the production of the variety of rifles and sights supplied to buyers in all parts of the world for target and sporting purposes by way of "private" as distinct from "official" trade. (Incidentally it may be mentioned that it is also at the bottom of the great success of the famous B.S.A. Cycles and Motors). It has become a tradition in the B.S.A. factory that the best work only is tolerated, and it is strange to notice how quickly mechanics new to the place feel it, and endeavour—always with success if they eventually become permanent employees—to live up to it.

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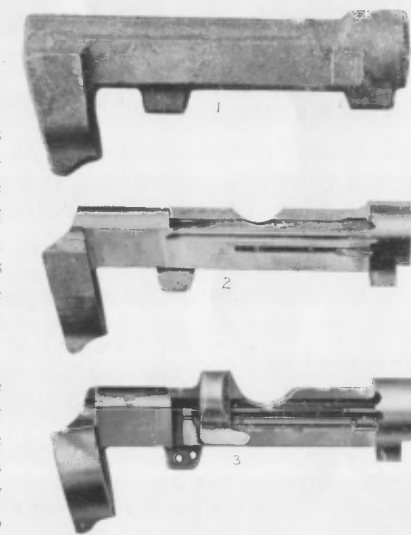
No matter what may be the price of the rifle, one class of material only is used in its manufacture—the best procurable. The different kinds of steel which have to be used according to the nature of the work the various parts in a rifle are called upon to perform, are very carefully selected by experienced experts who have the most modern apparatus at their disposal for testing the metals to discover their exact physical and chemical properties. The "timber" of the stock and fore-ends of B.S.A. rifles is of selected Italian walnut. The stocks of even the lowest priced B.S.A. rifles are all well seasoned, nicely grained, and of good colour.

The best material only used in B.S.A. Rifles.

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B.S.A. rifles are made by means of elaborate modern "repetition" machinery, which has constantly to be renewed as improvements are made. A separate machine for each part has to be fitted up with specially made fixings, and with milling cutters, drills, profilers,

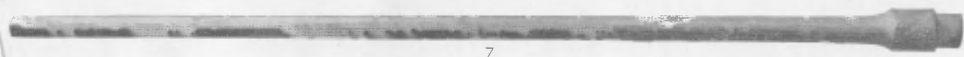
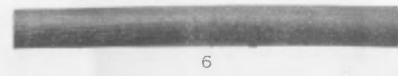
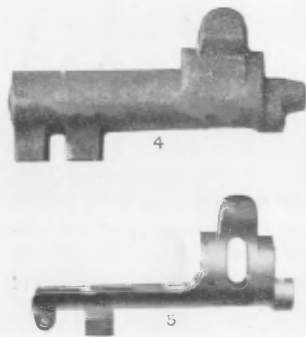
B.S.A. repetition work.



THE BIRMINGHAM SMALL ARMS CO. LTD, BIRMINGHAM ENG

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or other distinctive tools suitable for the cuts or operations necessary to give the required shape to the particular component. In most cases the operations are so numerous on one part that it has to be dealt with on a variety of different machines. The Lee-Enfield rifle action body illustrated is a case in point. The rough forging (Fig. 1) weighs nearly 5lb. By means of 149 separate drilling, milling, and other machining operations it is reduced to the finished article (Fig. 3), which weighs 1½lb. only. The half finished body is shown in Fig. 2. The nose cap of the same rifle—the Lee-Enfield Military Pattern Short, Mark III.—is also illustrated (Figs. 4 and 5). Operations totalling 69 are necessary to convert it from forging weighing 2¼lb. to finished component of 6oz. weight. The barrel mould as it arrives from the steel maker is illustrated in Fig. 6. The mould is heated to a particular temperature, and is then drawn out under heavy steam hammers to give it the rough barrel shape shown in Fig. 7. In the barrel "mill" to which it is then removed the forging is drilled right through from end to end on the remarkable special machines of B.S.A. design, turned on the outside, rifled and sighted. Its final appearance is illustrated in Fig. 8. It has to undergo a very large number of operations in the process, and it is gauged and viewed in the strict B.S.A. way after every one.



ance is illustrated in Fig. 8. It has to undergo a very large number of operations in the process, and it is gauged and viewed in the strict B.S.A. way after every one.

The machine plant and the machine fixings and tools necessary to make one type of rifle on the repetition principle represent a capital outlay in some cases of several thousands of pounds. Once the complete plant is established, however, the various components of the rifle can be made to flow very rapidly from the various sections to the Assembling Department, where the complete rifle is put together. Although the initial outlay is so heavy, B.S.A. rifles are placed in the hands of the user at a much smaller figure than he would have to pay for a weapon made in a less costly way, *i.e.*, without the employment of the keen modern machine manufacturing methods.

The advantage is the B.S.A. rifle buyer's, not only in the important matter of cost, but also in the event of the necessity arising at any time for the replacement of a part. A component of one B.S.A. rifle is exactly like a similar component of another arm of the same type. All B.S.A. components interchange freely. Complete bolts comprising a number of parts assembled are often interchanged from one rifle to another. An interesting incident may be quoted: A B.S.A. Lee-Enfield Territorial Rifle user, who recently lost his bolt at Bisley, borrowed one from another B.S.A. Territorial Rifle, and straightway put up a score at 200, 500, and 600 yards of 101 out of the possible 105.

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In accordance with the terms of the "Gun-barrel Proof Act, 1868," every B.S.A. rifle and gun is submitted to the severe official proof test before it is sold. The proof charge is much heavier than that used in the rifle in the ordinary way. One or more of the Birmingham proof marks, of which illustrations are here given, will be found on all B.S.A. rifles—on the barrels near the breech end and on some part of the action. It is an offence to sell unproved arms in England. Colonial buyers, in particular, are advised to look for the proof marks when purchasing arms.

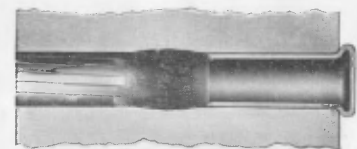
Official proving of B.S.A. Rifles.



Too much stress cannot be laid on the absolute necessity for the *most careful cleaning of rifles immediately after shooting is finished.* If a rifle is laid aside even for a short time the acid products of primer and powder are given the chance to start eating into the steel of the barrel. Erosive action is very rapid, and once started it cannot readily be stopped. When pitted by erosion or rusted by neglect a barrel is useless for accurate shooting, and should be discarded.

After thoroughly cleaning the interior of the barrel with a good nitro cleanser, the bore should be wiped out dry and a coating of pure thick mineral oil or vaseline deposited therein. The outside of the rifle should be wiped over also with pure mineral oil. Vegetable oils oxidise sooner or later, so becoming sticky and eventually hard. Rifle barrels should be cleaned when possible, from the breech. When they have to be cleaned from the muzzle a rod guide should be used in order to protect the rifling.

"Nickelling" in high velocity rifles and "leading" in miniatures are perhaps the worst troubles with which a rifle shot has to contend. They come under the heading of "metallic fouling." Metal deposits can be removed by means of the special chemical solvents sold by most gun dealers for the purpose. Constant and careful cleaning will do much to prevent the trouble. The presence of nickel in '303 barrels can at once be detected by the use of a *B.S.A. steel testing plug*, see page 20.



Showing damage caused by use of short cartridge in long chamber.

"Short" cartridges in the "long" chamber of a '22 rifle and "bulleted caps" and shot cartridges should not be used or trouble will result.

The use of emery and similar abrasants, and of steel wire scratch brushes is liable to destroy the rifling and so ruin the barrel.

A ring bulge, such as is illustrated, is caused by the presence of an obstruction in the bore. A piece of cleaning material, a wad, or a collection of vaseline inadvertently left in the barrel will check the bullet a sufficiently long time to allow of a piling up of the gases which creates such severe local pressure that the barrel wall is expanded as shown. The presence of a pad of dirt or snow in the muzzle will bring about a similar result. Rifle users are, therefore, advised to see that the barrel is quite clear before shooting is commenced.

The subject of rifle cleaning is very fully dealt with in the B.S.A. publication, "Notes on Rifle Cleaning," illustrated with 40 original photographs and drawings (see page 28). The price of the work is 6d. Every rifle user is advised to study it.

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B.S.A. Rifle Sights, OPTICAL, APERTURE & OPEN.

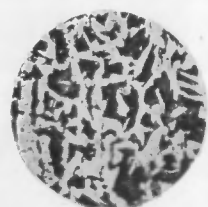
B.S.A. Air Rifles AND PELLETS.

Miniature & Mid-Range Rifles, TARGET AND SPORTING.

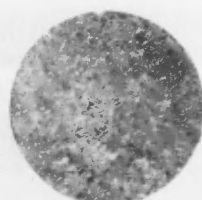
The length of life of a rifle barrel depends mainly upon the amount of care which is bestowed on cleaning the bore (see the paragraph above on cleaning of rifles). High velocity weapons, in which .303 and similar ammunition is used, are generally recognised by expert target shots to be good for the highest class of competition work for 2,000 to 2,500 shots. This does not, however, alter the fact that many B.S.A. .303 rifles, which have had in some cases as many as 5,000 shots through them still group well enough for work of the keenest competitive kind. B.S.A. Miniature Rifles will, with care and the use of good ammunition, last out 25,000 to 30,000 quite easily. We have no record of the wearing out by fair means of a barrel of the B.S.A. Air Rifle.

B.S.A. Rifles are fitted, when desired, with barrels of nickel steel instead of the ordinary mild or medium carbon steel which, until recently, has been used in the majority of rifle barrels. **Rifle barrel steel.** In the forged condition mild steel has a tensile strength of 75,120lb. per square inch (*i.e.*, a bar one inch square will stand a pull of 38 tons before breaking). Greater mechanical strength can be obtained in mild steel only by sacrificing ductility. By the addition of a small percentage of nickel, and by suitable forging and heating

treatments, the tensile strength of steel may be raised considerably, whilst its ductility remains unimpaired. The grade of nickel steel that The B.S.A. Company has found best for the highest class of rifle barrel has a tensile strength of 112,000lb. per square inch. A comparison of the micro structures of mild and nickel steel shows the much closer grain of the latter. This fine grain enables nickel steel to take a much higher finish in the bore which, in addition to the great strength of the



Mild Steel.



Nickel Steel.

material, assists in prolonging the life of the barrel. The illustrations represent a magnification of the object of about 100 diameters.

All B.S.A. Rifles are carefully tested and shot before they are allowed to leave the factory. Although our own shooters may be able to group the shots in the centre of the "bull," the sights may need a little adjustment for variations in ammunition or to suit the peculiarities of "holding," or difference in the sight of the buyer. Adjustments may quite easily be made. When testing, use a table rest and a sand bag support for the barrel of the rifle. If the rifle groups a little high, lower the backsight; if a little low, raise it slightly. Scratches may be made on the sight to indicate the altered elevation adjustment. If the shots group to the right, tap the foresight over to the right or, when possible, the backsight over to the left, using a piece of hard wood as a punch. If the shots group to the left, tap the foresight over to the left or the backsight over to the right. The sights fit in dovetail slots in the barrel and drive out from left to right, and in from right to left viewed from the breech. When adjusting rifles use the brand of ammunition which will always be used.

Altering the sighting of B.S.A. Rifles.



THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG.

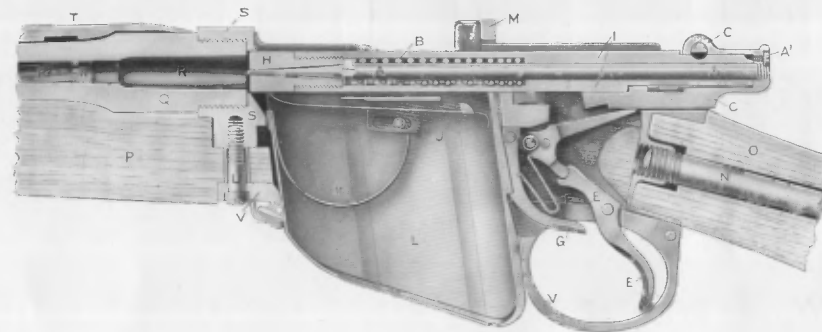
Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Military & Sporting Rifles, Gauges, .410 Shot Guns & Shot Gun Tubes.

In this section will be found full particulars and prices of the following:—

	Page		Page
Lee-Enfield SHORT Mark III. (present Service Pattern Rifle)	11	Re-barrelling Military and Match Rifles	18
Lee-Enfield Territorial Pattern Rifle	12	B.S.A. .410 Bore Shot Guns	19
Lee-Enfield Mark I* Ordinary Long Rifle	13	B.S.A. Rifle Gauges	20
B.S.A. Lee-Enfield High Velocity Sporting Rifles	14, 15	B.S.A. Safety Locking Bolts for Lee-Enfield Rifles	21
B.S.A. Lee-Enfield Military and Sporting Carbines	16, 17	B.S.A. Packed Bands for Lee-Enfield Rifles	21
B.S.A. .3240 Bolt Action Medium Game Rifle	18	B.S.A. Steel Tubes for Sporting Shot Guns	21
		B.S.A. Score Register	22

Lee-Enfield Rifle—Sectional View of Action and Breech.



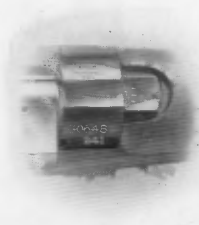
LIST OF PARTS SHOWN.

- | | | | |
|--------------------------|--|-------------------------|--------------------------|
| A. Striker | G. Magazine catch | L. Magazine | R1. Bullet lead ("Lead") |
| A1. Striker keeper screw | H. Bolt head | M. Charger guide bridge | R2. Rifling ("Enfield") |
| B. Main spring | I. Bolt body | N. Stock bolt | S. Action body |
| C. Cocking piece | J. Magazine cartridge-lifting platform | O. Stock or butt | T. Handguard |
| D. Sear | K. Magazine platform spring | P. Fore-end | U. Trigger guard screw |
| E. Trigger | | Q. Barrel | V. Trigger Guard |
| F. Sear spring | | R. Chamber | |

B.S.A. Service Pattern Military and Target Rifles.

B.S.A. Lee-Enfield Rifles may be recognised by the letters which are stamped always on the action strap (illustration to left), and by the piled arms trade mark and letters which are generally stamped on the "knox form" of barrel (illustration to right).

B.S.A. Military Rifles are to be found in practically every part of the world, whilst the specially prepared B.S.A. L.-E. Match Rifles (sold through the expert dealers) are used by Bisley-men almost exclusively.



THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

Military and Sporting Rifles, GAUGES AND .410 SHOT GUNS.

B.S.A. Rifle Sights, OPTICAL, APERTURE & OPEN.

B.S.A. Air Rifles AND PELLETS.

Miniature & Mid-Range Rifles TARGET AND SPORTING.

The various Cartridges for B.S.A. Military and Sporting Rifles.



Reproduced exact size.

Different kinds of Sporting Bullets.

Reproduced by permission kindly given by Messrs. Eley Bros., Limited.



Ballistics.

Cartridge.	Bullet weight in grains	Velocity ft. per sec.	Energy ft.-lbs.
.303 Mark VI Blunt Bullet ..	215	2060	2074
.303 Mark VII Pointed Bullet ..	174	2450	2317
.303 Eley Marksman Sporting ..	180	2400	2300
.315 (8 m/m) Blunt Bullet ..	240	2030	2199
.315 (8 m/m) Pointed Bullet ..	175	2500	2430
.375 Express ..	270	1975	2336
.276 (7 m/m) ..	173	2300	2029
.32/40 ..	165	1750	1120

Note.

The .303, .315 (8 m/m) and .276 (7 m/m), were primarily designed as military cartridges, and are readily obtainable in practically all parts of the world. For military work B.S.A. L-E. Rifles and either of these cartridges make very good combinations. They make very good sporting cartridges also, as reference to the ballistics here given will show. The .375 Express for heavy game, and the .32/40 for medium game, are popular and highly effective cartridges.

We do NOT manufacture, nor do we in the ordinary way deal in cartridges of any kind.

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

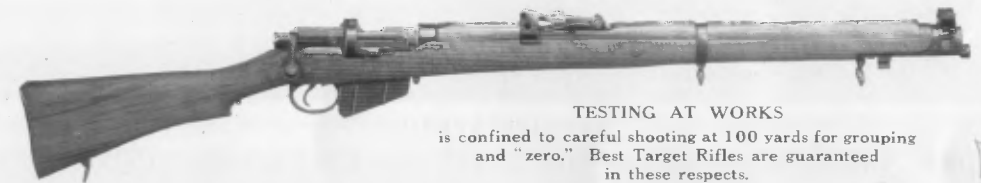
Lee-Enfield Magazine Rifles.

DESPITE its comparatively short barrel, this rifle gives the same velocity to the bullets of Service '303 ammunition as the long rifle. It is fitted with sights which are an improvement on those used on the long rifle. They allow of fine vertical and lateral screw adjustments. The Backsight has a U notch whilst the foresight is a knife edge (I). The action is adapted for rapid loading from clips, and is fitted with a safety bolt.

A CONDITION OF SALE MADE BY THE WAR OFFICE AUTHORITIES is that these RIFLES (except when fitted with miniature or mid-range barrels) SHALL BE SOLD TO BRITISH SUBJECTS ONLY. Forms of guarantee are supplied on request, to be signed by the buyer and sent with order.

For MINIATURE AND MID-RANGE WORK, i.e. when fitted with specially bored barrels for '22 r.f., '297/230 miniature, or '300 mid-range ammunition, this pattern is strongly recommended. It is used by many rifle clubs with much success.

SHORT PATTERN—MARK III. (Latest British Government Pattern.)



TESTING AT WORKS
is confined to careful shooting at 100 yards for grouping and "zero." Best Target Rifles are guaranteed in these respects.

BEST QUALITY TARGET RIFLES. Government viewed and stamped with special sale mark. Fitted with specially selected match barrels with either Metford or Enfield rifling. Government view certificate supplied when desired each

165/-

PLAIN MILITARY QUALITY RIFLES

135/-

RIFLES for MID-RANGE or MINIATURE RANGE PRACTICE:

Mark III. Rifle, for '22 rim fire or '297/230 central fire, for range practice up to 200 yards; or '300 bore for practice up to 500 yards each

103/6

Fitting new barrels, '22, '297/230, or '300 mid-range to privately owned Mark I* or Mark III. rifles (using old sights) and making necessary alteration to action each

30/6

Fitting new barrels only, '22, '297/230 or '300, to replace original barrels of these bores worn out, using the original sights again each

25/6

Boring out '22 or '297/230 barrels for full service '303 cartridge, including necessary alterations to action each

25/6

EXTRAS:

GOVERNMENT VIEWING Plain Military Quality Rifles .. each

1/6

SPECIALLY SELECTED HEART STOCKS from each

7/6

NICKEL STEEL BARRELS

11/3

SWORD BAYONETS, 1907 Model each

22/6



The B.S.A. No. 9 Aperture Sight is adapted for this pattern (see pages 26 and 27).

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Rifle Sights.
OPTICAL APERTURE & OPEN.

B.S.A. Air Rifles
AND PELLETS.

Miniature & Mid-Range Rifles
TARGET AND SPORTING.

Lee-Enfield Magazine Rifles.

THE well-known Long Lee-Enfield Pattern Rifle has been modified to bring it more up-to-date for the use of the Territorial Forces by the introduction of [1] new backsight windgauge slide, leaf and bed; [2] new foresight (blade pattern) and protector; [3] a "charger guide bridge," and [4] a new (deeper) magazine. The charger guide bridge fitted to the action allows of rapid loading from clips, and the deeper magazine affords better accommodation for ten cartridges. **The N.R.A. have sanctioned the use of this rifle in all Service Rifle events at Bisley.** Privately-owned rifles of old pattern can be converted; for prices and particulars see below.

MOST BISLEY MARKSMEN NOW USE RIFLES OF THIS PATTERN
MADE BY THE B.S.A. CO. LTD.

TERRITORIAL SERVICE PATTERN.



TESTING AT WORKS
is confined to careful shooting at 100 yards for grouping and "zero."
Best Target Rifles are guaranteed in these respects.

SPECIFICATIONS.

BEST TARGET MATCH RIFLES , with specially selected '303 match barrel, watched carefully from the forging to the finished stage; Government viewed complete; Service Pattern in all respects	each	157/6
ORDINARY MILITARY QUALITY , not Government viewed...	each	127/6

EXTRAS:

SPECIALLY SELECTED HEART WALNUT STOCKS ... extra from	7/6
<i>(Buyers of Special Match Rifles should always specify picked heart stocks.)</i>	
BARRELS OF SPECIALLY TOUGH "NICKEL" STEEL ... extra	11/3
<i>(They take a high polish and so foul less. "Superior nickel steel" appears on these barrels; buyers should note, see page 8.)</i>	
NOSE CAP and LOWER BAND, specially packed to admit of equal barrel expansion—B.S.A. patent 16464/03 (see page 21) ... extra	3/9
For GOVERNMENT VIEWING Military Quality Rifles	1/6
<i>(The official view certificate is sent with the rifle when wanted.)</i>	
SWORD BAYONET, Pattern 1888 (see page 11) ... extra	18/9

WITHOUT EXTRA CHARGE:

ENFIELD COCKING PIECE, with Safety Locking Bolt; or METFORD COCKING PIECE, without Safety Locking Bolt.
BARRELS WITH "METFORD" instead of "ENFIELD" Rifling (see page 18).

CONVERSIONS Privately owned Lee-Enfield or Lee-Metford Mark I* Rifles (as on page 13) each 27/-

The conversion includes the fitting of new windgauge backsight and bed, new foresight and protector, the charger guide bridge on action, new magazine, and Government viewing.

RE-BARRELLING (See page 18).

For MINIATURE or MID RANGES.

With barrels for '22 r.f. or '297/'230 c.f. cartridges for very accurate range practice up to 200 yards; or '300 bore for mid ranges up to 500 yards each 97/6

Fitting new '22, '297/'230 or '300 bore barrels to, and adapting the actions of, existing Territorial Rifles, using old sights	each	30/6
Do., do., but fitting new sights	each	38/6
For fitting new barrel (only) '220, '297/'230 or '300 to L.-E. rifles to replace original barrels of these bores worn out	each	25/6
For boring out '22 or '297/'230 barrels for full service '303 cartridge, including necessary alterations to action	each	25/6

For particulars of B.S.A. Aperture Sights for Service Rifles see Sight Section, pages 26-28.

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

Lee-Enfield Magazine Rifles.

'303 TARGET RIFLES.

B.S.A. **Match** Rifles are strictly of Service Pattern. They receive throughout the whole course of their manufacture special care and attention. An ordinary rack rifle **may** shoot well. B.S.A. specially selected rifles **certainly** do. It is always wise to be on the safe side.

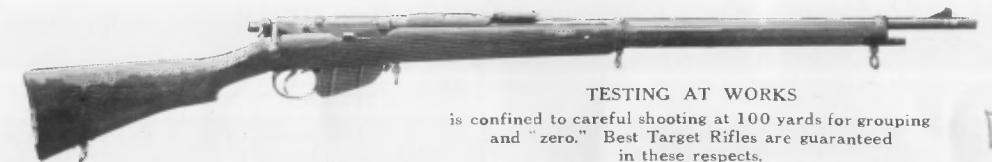
The great majority of Competitions and Prizes at Bisley and other prominent meetings at home and abroad have for years past been won with B.S.A. Selected Target Rifles.

FOR MINIATURE AND MID-RANGES.

This Service Pattern Arm is also fitted by The B.S.A. Co. with BARRELS SPECIALLY CHAMBERED AND RIFLED FOR '300 MID-RANGE, or for '22 rim fire or '297/230 (Morris) central fire MINIATURE AMMUNITION. These rifles are used by numerous rifle club members, territorials and cadets. **Privately-owned rifles** can be fitted with barrels for these ammunitions, and the barrels can, when worn out, be rebores up to full '303 size. For Prices see below.

LONG-MARK I.*

(British Government Pattern.)



TESTING AT WORKS
is confined to careful shooting at 100 yards for grouping and "zero." Best Target Rifles are guaranteed in these respects.

SPECIFICATIONS.

BEST TARGET MATCH RIFLES , with specially selected '303 bore match barrel, watched carefully from the forging to the finished stage; Government viewed complete; Service Pattern in all respects	each	142/6
ORDINARY PLAIN MILITARY QUALITY RIFLES , '303 bore, not Govt. viewed ..	each	112/6

EXTRAS:

SPECIALLY SELECTED HEART WALNUT STOCKS ... extra from	7/6
<i>(Buyers of Special Match Rifles should always specify picked heart stocks.)</i>	
BARRELS OF SPECIALLY TOUGH "NICKEL" STEEL (see page 8) extra	11/3
NOSE CAP and LOWER BAND, lined with Asbestos to admit of equal barrel expansion—B.S.A. Patent 16464/03 (see page 21) ... extra	3/9
For GOVERNMENT VIEWING Military Quality Rifles	1/6
<i>(The official view certificate is sent with the rifle when wanted.)</i>	
SWORD BAYONETS, Pattern 1888 (see page 18)	18/9

WITHOUT EXTRA CHARGE:

ENFIELD COCKING PIECE, with Safety Locking Bolt; or METFORD COCKING PIECE, without Safety Locking Bolt.
BARRELS WITH "METFORD" instead of "ENFIELD" Rifling.
RE-BARRELLING (see page 11).

For MID and MINIATURE RANGES.

'300 Mid-Range, for target shooting up to 500 yards; or 22 rim fire or '297/230 (Morris) central fire bore, for Miniature Range work up to 200 yards each 85/-

For fitting Mid-Range or Miniature Barrels to PRIVATELY-OWNED '303 RIFLES	each	30/6
For fitting New Barrel (only) '220 or '297/230 to L.-E. rifles to replace original barrels of these bores worn out	each	25/6
For boring out '22 or '297/230 barrels for full service '303 cartridge, including necessary alterations to action	each	25/6

For particulars of B.S.A. Aperture Sights for Service Rifles see Sight Section, pages 26-28.

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Rifle Sights.
OPTICAL, APERTURE & OPEN.

B.S.A. Air Rifles
AND PELLETS.

Miniature & Mid-Range Rifles
TARGET AND SPORTING.

B.S.A. HIGH VELOCITY Sporting Rifles.

LEE-ENFIELD PATTERN.

For '303; 7 m/m ('276') and 8 m/m ('315') Military and '375 Express Cartridges.

B.S.A. Sporting Rifles are most extensively used in all parts of the World for killing all kinds of game, from the thick-skinned dangerous beasts down to the smaller deer.

The reason the prices are comparatively low is that thousands of these rifles are turned out yearly on the accurate repetition machinery employed in the manufacture of Lee-Enfield Service Pattern Arms for H.M. War Department.

Notwithstanding the low prices the very best material only is used and the rifles are built with such close regard to weight, balance, and shape of stock, that they come up to the shoulder and cheek just as well as a finely built and nicely fitted sporting shot gun. Snap shooting is made easy. The sights are aligned on the animal with certainty, and without a moment's check.

Fitted with the B.S.A. No. 9 Aperture Sight (see pages 23 to 27) and the B.S.A. Patent Safety (see page 21) B.S.A. Sporting Rifles are as good and effective as the most expensive hand made rifles of the same bores.

FOR ILLUSTRATIONS SEE OPPOSITE PAGE.

STANDARD SPECIFICATIONS.

Length (over all): 3ft. 8½ins.

Weight (average): 7½lb.

Barrel: 24½ins. long, 5 groove Enfield rifling.

Sights: BACK—'303; 7 and 8 m/m bores—100 yards, fixed; folding leaves for 200 and 300 yards, and tangent from 400 to 1,000 yards.

'315 bore—100 yards, fixed; folding spring leaves for 200 and 300 yards; special for India. Sighting for longer ranges if required. Foresight fitted with spring steel cover.

Sights: FRONT—Adjustable bead, platinum or ivory tipped.

Magazine: To hold five cartridges; '315 bore, to hold four cartridges.

Action: Engraved and blued, and fitted with Enfield military safety catch.

Stock: Walnut, with chequered grips. Pistol grip on butt.

Oil Bottle and Pull-through Cleaner in trap provided in butt.

PRICES.

			'303; 7 and 8 m/m bores	'375 bore
No. 1 Pattern	Flat top engine turned rib, grip and fore-end fitted with horn caps, handsomely engraved, superior finish, each		210/-	240/-
Ditto	ditto ditto plain finish		195/-	—
No. 2 Pattern	Same as No. 1, but with plain round barrel		180/-	210/-
No. 3 Pattern	Plain finish, round barrel, no horn caps		165/-	195/-

Orders for Sporting Rifles will be executed strictly in accordance with above specifications, unless otherwise instructed. These rifles can, however, be supplied with:—

LONGER BARRELS up to 30 inches
10-SHOT MAGAZINES instead of 5
METFORD BOLT without Safe

WITHOUT EXTRA COST

or with

B.S.A. PATENT SAFETY BOLT ... for an extra charge of 7/6 each
CHARGER LOADING ACTIONS, similar to Mark III. Short Rifle, }
for '303 and '375 bores only ... } " " " 3/9 "

COLE'S HOLDFAST FORESIGHT PROTECTOR (see illustration).

For an extra charge of 3/- each.



For B.S.A. No. 9 Aperture Sight for Lee-Enfield Sporting Rifles, see Sight Section, pages 26 and 27.

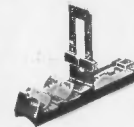
THE BIRMINGHAM SMALL ARMS CO. LD., BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. HIGH VELOCITY Sporting Rifles,

LEE-ENFIELD PATTERN.

For '303, 7 m/m ('276) or 8 m/m ('315) cartridges.

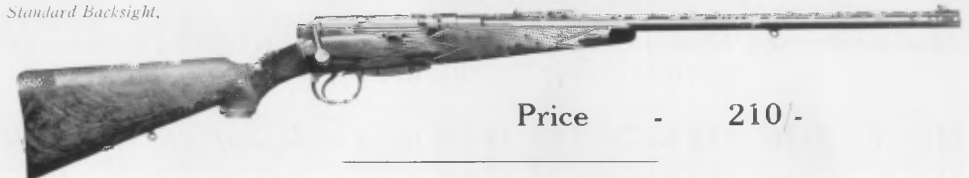


Standard Backsight.



Standard Foresight.

No. 1 PATTERN.



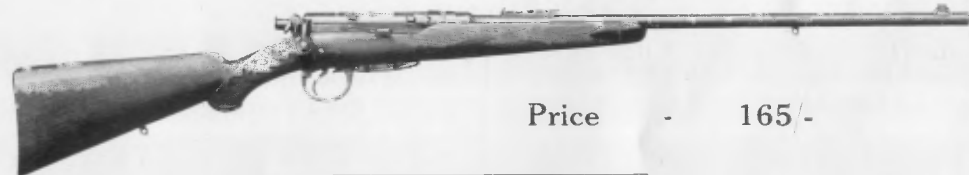
Price - 210/-

No. 2 PATTERN (Showing 10-shot Magazine).



Price - 180/-

No. 3 PATTERN.



Price - 165/-

'375 Bore (Rim Cartridge).

For cartridge and other particulars, see page 10.

Short of the most modern developments in very high velocity—and generally very high-priced—weapons, the '375 Lee-Enfield is recommended as the best sporting rifle now offered, more especially because of its utility as an express arm for killing heavy game up to 200 yards or so.

The '375 bullet has greater *smashing* effect than many others mistakenly used for this work. The '375 is a popular cartridge, and consequently may be obtained readily in almost any part of the world.

No. 1 PATTERN.



Illustrated to show 4-shot magazine and foresight cover.

Price - 240/-

Standard Backsight.

For particulars of B.S.A. No. 9 Sight for Lee-Enfield Sporting Rifles see Sight Section, pages 26 and 27.

THE BIRMINGHAM SMALL ARMS CO. LD., BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Rifle Sights.
OPTICAL, APERTURE & OPEN.

B.S.A. Air Rifles
AND PELLETS.

Miniature & Mid-Range Rifles
TARGET AND SPORTING.

Lee-Enfield Magazine Carbines.

MILITARY PATTERNS. '303 BORE.

B.S.A. Military and Sporting Carbines are not strictly of Service Pattern, and cannot, therefore, be supplied Government viewed.

They make admirable "handy" sporting rifles and sell in considerable numbers to those who want cheap knock-about weapons for all-round work.

The No. 4 Pattern is certainly comparatively the cheapest high velocity sporting rifle on the market at present. Material and manufacture are thoroughly B.S.A., i.e., sound in every detail.

FOR ILLUSTRATIONS SEE OPPOSITE PAGE.

- No. 1. FOR OFFICERS' USE** (*fitted for bayonet*) ... each 135/-
No. 2. FOR OFFICERS' USE (*NOT fitted for bayonet*) ... 135/-

SPECIFICATION.

Stock: BUTT—Ordinary military pattern and length, 13½ ins., with chequered grip.

Weight (*average*): 7 lb. 3 oz.

Sights: BACK—Military carbine, tangent leaf.
FRONT—Military barleycorn.

FORE-END—Chequered, and fitted with attachment for sword-bayonet.

Barrel: 19 ins. long, "Enfield" rifling; or can be supplied with "Metford" rifling if preferred.

Action: With 5-shot or 10-shot magazine and B.S.A. patent safety bolt.

Length (*over all*): 3 ft. 2 ins.

Oil Bottle and Pull-through Cleaner in trap provided in butt.

- No. 3. "TRADE PATTERN"** (*with military sights*) ... each 112/6

SPECIFICATION.

Stock: Military pattern butt (13½ ins. long) and fore-end. Plain finish, not chequered.

Length (*over all*): 3 ft. 4 ins.

Weight (*average*): 7 lb. 14 oz.

This rifle can also be supplied with short fore-end, similar to that of the No. 4 Pattern.

Action: Military pattern, not engraved, with military safety bolt.

Barrel: 21 ins. long, or to order; "Enfield" rifling.

Magazine: 10-shot, but fitted with 5-shot magazine if preferred (*no extra charge*).

Sights: BACK—Military leaf, as on infantry rifle. FRONT—Military barleycorn.

Oil Bottle and Pull-through Cleaner in trap provided in butt.

- No. 4. SPORTING CARBINE** ... each 120/-
 BORES: '303, 7 m/m ('276') or 8 m/m ('315').

SPECIFICATION.

Barrel: 24½ ins. long, "Enfield" rifling.

Length (*over all*): 3 ft. 7½ ins.

Weight: 7½ lb.

Sights: BACK—100 yards, fixed; folding leaves for 200 and 300 yards, and tangent leaf from 400 to 1,000 yards; or 100 yards fixed, and folding leaves 200 and 300 yards. Special for India.

Stock and Fore-end: Walnut, with chequered grips; length from trigger to centre of butt, 13½ ins.

FRONT—Adjustable bead, platinum or ivory tipped, with Cole's Foresight Protector (*see page 14*).

Magazine: To hold five cartridges; 10-shot magazine if ordered specially.

Action: With "Enfield" military safety catch.

Oil Bottle and Pull-through Cleaner in trap provided in butt.

EXTRAS: For Nos. 3 and 4 Patterns—B.S.A. PATENT SAFETY BOLT (<i>see page 21</i>)	each	7/6
CHARGER LOADING ACTION	..	3/9
SWORD BAYONETS, for Nos. 1 and 3. 1888 Pattern (<i>see page 11</i>)	..	18/-

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

Lee-Enfield Magazine Carbines.

MILITARY PATTERNS. '303 BORE.

- No. 1. FOR OFFICERS' USE** (*fitted for bayonet*).



Price 135/-

- No. 2. FOR OFFICERS' USE** (*NOT fitted for bayonet*).



Price - 135/-

- No. 3. TRADE PATTERN.**



Price - 112/6.

- No. 4. SPORTING CARBINE.**

BORES: '303, 7 MM ('276), OR 8 MM ('315).



Price - 120/-

For full specifications see opposite page, No. 16.

For particulars of B.S.A. No. 9 Aperture Sight suitable for these rifles, see Sight Section, pages 26 and 27.

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG.

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B.S.A. Rifle Sights.
OPTICAL, APERTURE & OPEN.

B.S.A. Air Rifles
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Miniature & Mid-Range Rifles
TARGET AND SPORTING.

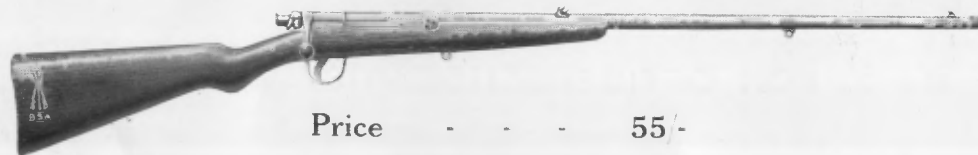
B.S.A. Sporting Rifle.

'32/40 CALIBRE.

For MEDIUM GAME.

THE '32/40 is very popular ammunition. It is stocked by practically every rifle dealer in the world—even those in the remotest parts. It is excellent for killing medium sized game over distances up to about 500 yards, especially in a populated district where the extreme range and consequently dangerous nature of high velocity bullets is undesirable. It is more powerful than the '300 or '310 (see pages 44 and 45 of mid-range and miniature range rifle section).

The B.S.A. '32/40 rifle illustrated is made of the best possible materials, it is evenly balanced, light and handy, and it has been designed to extract the very best results from the '32/40 cartridge. It is adapted also for accurate target practice. It carries the usual B.S.A. guarantee of material, workmanship and accuracy.



Price - - - 55/-

SPECIFICATION.

Barrel: 25in. long.

Backsight: Sporting pattern. Two folding leaves and standard, adjusted for 100, 200 and 300 yds.

Foresight: Bead.

Action: Bolt action, fitted with "Enfield" Safety Catch.

Stock: 13½in. from trigger to butt plate.

Length: Over all, 44¾in.

Weight: 5lb. 12oz.

The barrel and action may easily and quickly be dismantled from the stock.

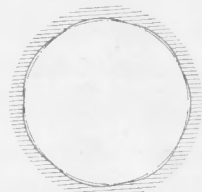
Re-barrelling—Military and Match Rifles.



Existing military rifles with sound actions but bad barrels may be brought into use again for the best class of target work with the help of a new barrel. Spare barrels of B.S.A. manufacture are supplied for the purpose. These "target" barrels are specially selected and gauged, and are equal in every respect to the barrels in the best B.S.A. match rifles described on pages 11-13.

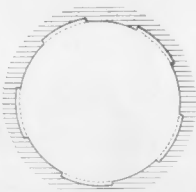
The work of re-barrelling and re-adjusting the action is generally done by the expert armourers and rifle dealers.

When done at the B.S.A. factory it **is undertaken only through a retail gun dealer.** Prices may be ascertained from such traders. The latter are generally in personal touch with riflemen, and they have facilities for testing beyond 100 yards, not readily accessible to us.



METFORD RIFLING.
One turn in 10 inches left hand.

Rifles which are Government property, that is, those bearing the Government marks but no "sale permit" mark, are not re-barrelled by The B.S.A. Co. except when permission is obtained by owners from the Government to have them converted to '22 bore for miniature range practice (for prices see pages 11-13).



ENFIELD RIFLING.
One turn in 10 inches left hand.

B.S.A. barrels for match rifle work (as distinct from Service rifle match work), i.e. barrels for the '375/303, '280, and other very high velocity "match" cartridges, are also supplied through the expert gun dealers.

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG.

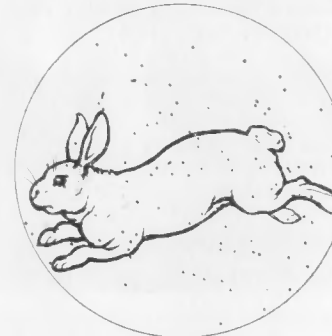
Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. '410 Bore Shot Gun.

SINGLE BARREL.

EJECTOR.

CHOKE BORE.



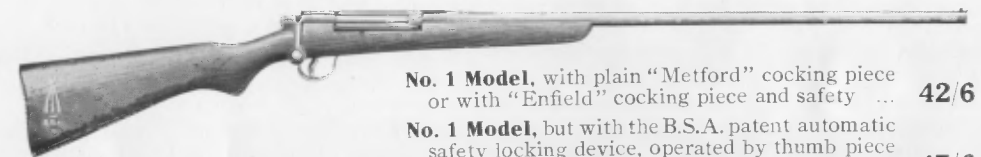
The diagram illustrates the number of No. 7 shot placed in a 15in. circle by the B.S.A. gun at 25 yards. The rabbit is drawn exactly to scale to show what a large number of pellets would strike it at that distance. No. 8 shot is better for rabbit shooting.

Illustrated "Booklet of the '410 Bore Shot Gun," post free.

THE uses to which the interesting, handy, and cheap '410 bore Shot Gun, with its inexpensive ammunition, may be—and indeed is—put are very numerous. For the garden, the orchard and the farm; for the keeper, the boys and ladies, and even for the sportsman of experience, there is no other bore of shot gun that can be used so effectively under such a great variety of conditions. Hitherto the '410 bore gun was regarded somewhat in the light of a toy, but the strongly built bolt action gun, built by The B.S.A. Co. for serious work with the powerful smokeless 2½in. cartridges, has entirely dissipated the idea. The following independent expression of opinion recently appeared, among others, in the "Shooting Times":—

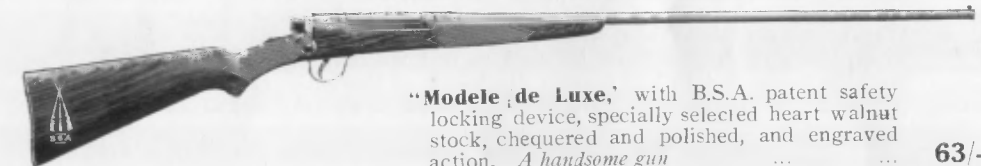
THE GUN FOR THE YOUNG SHOOTER.

Sir,—Re Dr. Hamilton's article in your excellent paper of Sept. 2nd on '410 bore shot guns, I purchased one ten days ago for my boy, 11 years old, to learn with, and he has already shot his first running rabbit and a flying pigeon with it. It was built by The Birmingham Small Arms Co. Ltd., single barrel choke, chambered for 2½in. Eley case. I have to-day tried it at 20 yards at a business envelope, and I enclose same for your inspection. You will see it put ten shots (No. 6) into it. At 25 yards it put 110 shots on a 30in. circle, and at 30 yards 93. The penetration is first-class.—Yours faithfully, H. J. WHITWELL.



No. 1 Model, with plain "Metford" cocking piece or with "Enfield" cocking piece and safety ... 42/6

No. 1 Model, but with the B.S.A. patent automatic safety locking device, operated by thumb piece on top of grip ... 47/6



"Modele de Luxe," with B.S.A. patent safety locking device, specially selected heart walnut stock, chequered and polished, and engraved action. A handsome gun ... 63/-

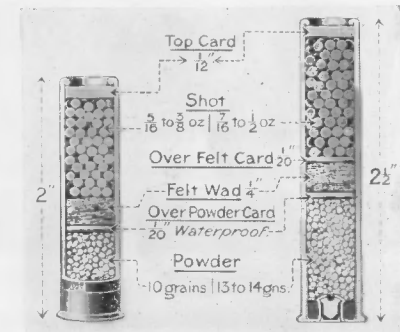
SPECIFICATION.

WEIGHT ... 4lb. 11oz.
LENGTH, over all ... 47 inches.
DISTANCE FROM TRIGGER TO END OF STOCK 13¼ ..
LENGTH OF BARREL ... 25 ..

Dismounting for carrying.—Barrel and action may easily be dismantled from the stock by removing the screw from the fore-end with a coin.

'410 CARTRIDGES.

The sectional illustrations give a very clear idea of the contents of the 2in. and 2½in. cases. The latter shows about a 25% increase in shot and powder charges over the former. Thus the greatly increased striking power and shot spread of the 2½in. cartridge.



THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Rifle Sights.
OPTICAL, APERTURE & OPEN.

B.S.A. Air Rifles
AND PELLETS.

Miniature & Mid-Range Rifles
TARGET AND SPORTING.

B.S.A. Rifle Gauges.

THE extreme accuracy of B.S.A. repetition machine work cannot be secured without the help of very fine hard steel gauges true to .0001in. (one-ten-thousandth of an inch). These gauges are made in the B.S.A. Co.'s own Tool Department.

For those who like always to be acquainted with the exact condition of their rifles we supply barrel and other gauges guaranteed to the one-ten-thousandth of an inch. The barrel is the most important part of a rifle, and in order that "nickelling" or wear may at once be detected a set of barrel gauges (.3030in., .3035in. and .3040in.) is quite a necessary part of the rifleman's equipment. We must warn our customers against the use of cheap gauges, which are often wrong to dimensions, irregularly shaped and made of soft steel. Properly made gauges, of good hardened steel, cannot be sold at prices lower than those set out below.

It is our policy to make a nominal covering profit only on the sale of gauges, because it is our earnest desire that B.S.A. Rifles shall always be kept right up to concert pitch even when they are out of our hands.

A very elaborate machine which measures with the aid of a powerful telescope to one-hundred-thousandth part of an inch (.00001in.) is used regularly in the production of B.S.A. gauges.



.3030 Barrel Gauge.

BARREL GAUGES with ends screwed, so that they may be fitted to cleaning rods (.3030in., .3035in., .3040in.), or other special dimensions.

7/- each.

SET OF SIX GAUGES (in satin lined pocket case). Three barrel plug gauges, .3030in., .3035in. and .3040in.; "head" gauge (for testing to see if bolt closes "home" and properly supports the cartridge base); striker point gauge (for showing whether striker point protrudes the proper distance to secure correct detonation of the cap); and bullet entry gauge (used to determine whether the bullet "entry" or "cone," leading from chamber to rifling, is worn).

Per set ... 42/- complete.

We recommend the use of the six gauges forming the set here dealt with. One or another must be used to test whether the vital parts of the rifle concerned in the correct discharge of the bullet are in proper order. Confidence in his rifle is the marksman's principal asset.



SET OF THREE BARREL GAUGES

Complete in satin lined pocket case, .3030, .3035 and .3040 gauges supplied unless otherwise ordered.

A very popular little set.

Per set, complete ... 25/-



THE BIRMINGHAM SMALL ARMS CO. LD. BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

Safety Locking Bolts B.S.A. Improved Pattern.

PATENT No. 28834 97.

THE following illustrations show the difference between the ordinary military pattern safety catch and the **B.S.A. PATENT SAFETY** locking device. We recommend the latter strongly because it provides great locking security, and has a much neater appearance. It is also fitted to the B.S.A. '410 Shot Gun (page 19).



FIG. 1.

B.S.A. Patent Safety Locking Device (Fig. 1)

is operated by means of the thumbpiece shown on the action strap. It can be fitted to any Service Pattern of B.S.A. manufacture at an extra charge of 7.6.

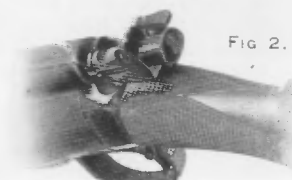


FIG. 2.

Military Pattern Safety Catch (Fig. 2)

is operated by means of the lever shown on the right hand side of the cocking piece.

B.S.A. Asbestos Packed Bands

For Target Rifles.

PATENT No. 16464 03.



Nose Cap.



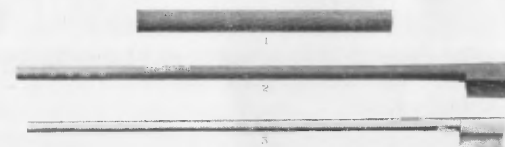
Lower Band.

ASBESTOS is arranged in grooves in the top of the nose cap and lower band, so that besides holding the barrel firmly it admits of equal barrel expansion. The caps and bands are usually machined to fit loosely, and although allowing for expansion of the barrel when hot, the looseness is objectionable. The B.S.A. system of packed bands obviates this objection, at the same time preventing metallic bind.

USED BY ALL BISLEY PRIZE WINNERS.

Cost of Packing Nose Cap and Band ... 3/9

B.S.A. Steel Tubes For . . . Sporting Shot Guns.



B.S.A. shot gun barrel tubes are made entirely by machinery by the B.S.A. patented process from selected steel. They are forged from solid bars of steel under a steam hammer, and are afterwards drilled from end to end and BORED UP TO FULL SIZE AT ONE OPERATION. **NO HAMMERING** is employed in straightening B.S.A. Tubes. Hence they are free from the internal strains commonly produced in the metal by the ordinary methods of manufacture. They are guaranteed to retain their original straightness in all temperatures.

The original piece of steel—technically known as the "mould"—is shown in Fig. 1, the rough forging in Fig. 2, and the finished tube as supplied to the gun maker in Fig. 3.

B.S.A. barrels are made in different grades of steel, so that they may be used in ordinary, medium or best quality guns of different bores. If it is the sportsman's desire to purchase a gun with the best available barrels, he should specify that the latter be "B.S.A." When the gun is delivered he should look for the well-known B.S.A. piled arms trade mark on the undersides of the breech ends of the barrels. They are stamped on all genuine B.S.A. barrels near the proof marks.

If any difficulty is experienced in securing guns fitted with B.S.A. barrels, kindly communicate with us, and we will recommend a reliable maker of sporting guns who specializes in these high-class tubes.

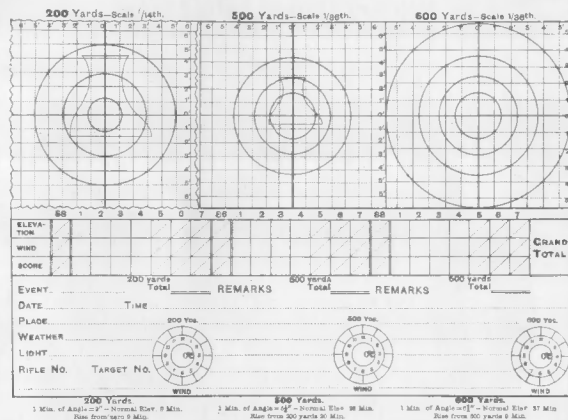
THE BIRMINGHAM SMALL ARMS CO. LD. BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Score Register.

ALL DISTANCE.

THE B.S.A. All-Distance Score Register has been designed to simplify the use of scientifically constructed sights having vernier scales divided to read in minutes of angle, such as the B.S.A. No. 9 (see pages 26 and 27). The target representations, one for each distance, are accurately drawn to scale and are divided by vertical and horizontal lines each numbered from a central zero line and representing the amount of correction given by one minute on the sight scale. When a hit is marked the amount of any correction which may be necessary is shown by the figures on the right of the diagram for elevation, and on the top of the diagram for lateral deviation. Calculation is therefore unnecessary. Space is also provided for recording score, elevation and wind.



Specimen page—exactly half-size.

The 200 and 500 yards figure targets are printed in the proper colours, viz.:—Top half grey, bottom half green. The 300 and 600 yards targets are also shown correctly, viz., circular.

Prices :

In "Pluviusin"—waterproof art leather cloth binding, khaki colour ... **2/-**
Inclusive of—Zero Target and Card of Wind Tables.

Re-fill System.—The Register is built on the re-fill system. New interiors are supplied at 1/- each.

Gratis with each Register.

1. A Wind Chart, on which are printed Captain Hardcastle's wind tables and the simplified wind tables recently introduced by the "Field."
2. A Zero Target, by means of which any novice may correctly zero his own rifle.

CONTENTS OF THE INTRODUCTION TO REGISTER.

How to use the B.S.A. Aperture Backsight.
Elevation Angle Tables:
'303 Service Cartridge, Mark VI.
'303 Service Cartridge, Mark VII.
'303 Match Cartridge for Service Rifle.
'375 303 Match Cartridge.
U.S.A., German and French Military Cartridges.
The effect of canting Sights.
Backsights.
Wind-gauges.

Drift.
Judging Wind Velocities.
How to Aim with an Aperture Sight.
Correct Size of Aperture.
Fore-sight Tips.
Directions for using the B.S.A. Score Register.
Service Pattern Target Rifles. Cleaning, etc.
Exact Reproductions of all N.R.A. Targets.
Illustrations of N.R.A. Marking.
Digest Page for Recording Shoots or Practices.

THERE ARE 64 SCORING PAGES.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Rifle Sights.

BACK AND FRONT SIGHTS OF ALL KINDS FOR ALL RIFLES.

In this section full particulars and illustrations are given of:—

	Page
B.S.A. No. 9 "Peep" Sights for Service Rifles	26, 27
B.S.A.-Parker Sight for Service Rifles	28
B.S.A. Wind-gauge Sight Slides	32
B.S.A. Nos. 8 and 8a Sights for Miniature and Mid-range Rifles	29
B.S.A. No. 21 Sight for B.S.A. Air and other Rifles	30
B.S.A. Patent "Australian Cadet" Pattern Backsight	30
B.S.A. No. 19 Tubular Target Combination Foresights	31
B.S.A. No. 20 Target and Sporting Combination Foresights	31
B.S.A. Foresights—various	29
B.S.A. Optical Sights	25

Several of the B.S.A. Sights here dealt with have achieved remarkable popularity. The No. 9 Sight for instance, has, since aperture sights were allowed by the National Rifle Association at Bisley, been used by most Service Riflemen. Over 50,000 of these sights are in regular use in every part of the British Empire, and in some foreign States where a rifle other than the British Service rifle is used—notably in Chili on the Spanish Mauser.

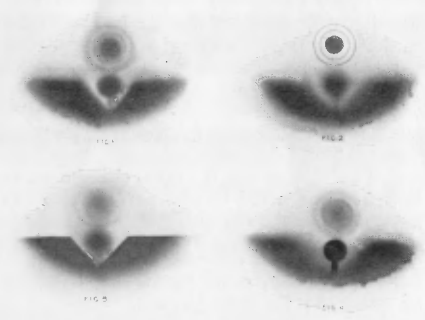
The No. 8 Sight is used by practically every miniature rifleman, as may readily be observed at any open rifle meeting.

Needless perhaps to say, it is merely persistent endeavour in the improvement of design and the continuous exercise of the highest degree of manufacturing skill that is at the back of the success of the B.S.A. Sights.

Advantages of Aperture or "Peep" Sights.

On the range and in the field aperture sights have, for the past few years, gradually been displacing open or "barrel" sights. The reasons are not obvious, but they may be demonstrated quite simply.

I. By holding the finger between the eye and an object a few yards away, and observing the blur either of finger or object when an endeavour is made to see both clearly, it at once becomes evident that two different objects at different distances from the eye cannot under any circumstances both be focussed sharply at one time. This clearly applies to the aiming of a rifle when open backsight, "point" foresight and object lie in different planes. The diagrams show how the sights and object appear to the eye of the average shooter:



- 1 when an endeavour is made to see backsight, foresight and object equally well and as clearly as possible;
- 2 when the object is focussed at the expense of clearer definition of the sights;
- 3 when the backsight is clearly focussed; and
- 4 when the vision is concentrated chiefly on the foresight.

The truth of these illustrations can quite readily be confirmed by anyone who cares to test the matter for himself. The aperture sight takes the place of the open sight, so removing one great source of trouble in aiming.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

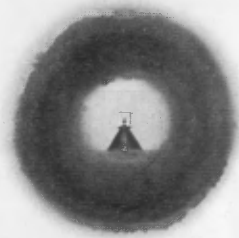
B.S.A. Rifle Sights.
OPTICAL, APERTURE & OPEN.

B.S.A. Air Rifles
AND PELLETS.

Miniature & Mid-Range Rifles
TARGET AND SPORTING.

B.S.A. Rifle Sights.

Advantages of Aperture or "Peep" Sights—continued.



The View through a "Peep" Sight with small hole. A large hole is best for sporting work.

2. The aperture is merely looked through. There is no such thing as a coarse or fine foresight with it. No notice at all need be taken beyond seeing the foresight clearly about its centre.

3. The small size (say .05" average dia.) of an aperture, and the ease with which the true centre is found by the eye, implies a considerable reduction of error compared with open sights. Although the actual size of the hole is so small, it looks comparatively large when the eye is placed close to it, and as will be seen in the illustration, the edge is blurred because it is out of focus. This blur helps to fill the hole, and the utmost distance the foresight can stray from the centre cannot upset accuracy.

4. The aperture, by cutting out interfering rays of light, gives sharp definition to the foresight, whilst the object also can be seen clearly. This "orthoptic" effect, as it is known, may be tested with open sights by aligning them at an object first with the naked eye and then through a small hole pierced in a piece of black paper held closely round the eye. In the first case they are blurred and in the second they stand out comparatively sharply.

5. The aperture backsight is near to the eye, and the length of sight radius—i.e., the distance between the sights—is increased 50%. Errors of aiming are necessarily minimised.

6. The diminution of optical difficulties minimises the time taken in aiming.

Aperture or Ring Foresights.

These carry the advantages of the aperture sight system a step farther by eliminating another object which the eye has to "take in" besides the object. A ring foresight of the proper dimensions practically converts the object into the foresight.

Calculating Sighting Adjustments.

The B.S.A. No. 8 Sights do not carry range markings for the simple reason that they are bought to be fitted to many different kinds of rifles with varying sight radii, i.e., distances from back sight to front sight.

On one side the stem of the sight is marked with lines $\frac{1}{100}$ in. apart. The elevating part carries a vernier scale by means of which each division may, with ease, be split up into fifths or one-hundredths of an inch.

Bearing in mind the fact that the adjustment of the backsight of $\frac{1}{100}$ th of an inch alters by one inch the position of the shot group on the target at 100 yards provided the sight radius is 36 inches, it is easy by rule of three to get at the correction for any other radius.

To reduce it to the most simple form, let A=range in inches, B=the sight radius in inches, and C=any given adjustment of the backsight as a fraction of an inch, then $\frac{A C}{B}$ =amount of correction on target for each adjustment C.

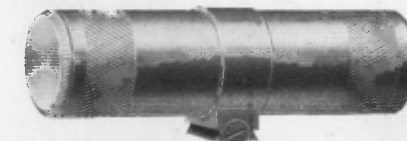
The elevations of the sight for the various ranges are generally quite easily ascertained by actual shooting. A file or knife mark on the sight records the adjustment.

B.S.A. Optical Sights.

PATENT No. 8644/12.



The back sight lens attachment.



The magnifying lens foresight.

The illustrations are three-fifths of the size of the sights.

The new sights illustrated are adapted for sporting and target work and are suitable for all kinds of rifles. The fore-sight is fitted with a lens of $2\frac{1}{2}$ diameters magnification. The lens in the disc of the backsight is of the concave or negative form and is adapted to give clearness to the magnified object. It also allows of the use of an aperture of sufficient size to let through light enough to give good illumination to the object.

PRICE: 25/- per set.

COMPLETE WITH NO. 8 SIGHT (page 29) 32/6.



The Components of the Front Sight:

- A. Lens with ring definer.
- B. Lens holder or mounting.
- C. Screw rings holding lens in place in holder.
- D. Tubes screwing into either side of lens holder B.
- E. Dust caps screwing into ends of tubes D.
- F. Screws for locking sight in dovetail slot in fore-sight block. They allow of exact adjustment of the sight laterally.

The construction gives ample protection to the lens against light and dust and allows of easy access to the lens for cleaning or renewal.



The Component Parts of the Back Lens Attachment:

- G. Eyepiece with large aperture.
- H. Lens mount which is screwed into eyepiece G.
- I. Clearing Lens.
- J. Mount for eyepiece and lens holder when assembled together. Eyepiece G. screws into it.

The whole assembled is adapted to be screwed into the elevating block of the B.S.A. No. 8 sight dealt with on page 29.

THE BIRMINGHAM SMALL ARMS CO. LTD. BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

THE BIRMINGHAM SMALL ARMS CO. LTD. BIRMINGHAM ENG.

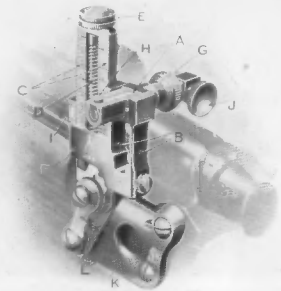
Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

B.S.A. "No. 9" Aperture Sights.

Covered by British Patent Nos. 27332-08, 26943-07, 22619-09, 29844-10 and 30337-10; and Registered Design No. 575536. Protected also in the Colonies.

FOR LEE-ENFIELD RIFLES.

THE No. 9c (1912) PATTERN.



PRICE	18/6	each
With patent 6-hole eyepiece	22/-	"
Spare 6-hole eyepieces	4/-	each
Extra single hole discs	8d.	"
Extra single hole discs with long necks	1/-	"

Postage extra.

Suitable for { MARK Ist LONG (see page 13)
TERRITORIAL (" 12)
SHORT (" 11)
SPORTING (" 14-17) } L.-E. Rifles.

IMPORTANT NOTICE.—The rifle the sight is intended for should be specified when ordering.

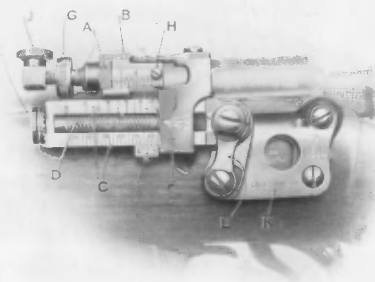
Description.

The No. 9c (the latest development of the No. 9 pattern), has the simple and strong elevating arrangement C. Rapid or fine adjustments are rendered possible by the elevating screw D, which has a thread of steep pitch. It is turned by the milled head E, which has a spring beneath it so arranged that an audible and palpable click is made for each movement of one-hundredth of an inch (corresponding with a minute of angle and thus an adjustment of the shot group on the target of about one inch at 100 yards).

The sight is also supplied with an elevating screw with a slower pitch. Each click indicates a vertical movement of the eyepiece and its carrier through half a minute of angle, *i.e.*, one two-hundredth part of an inch (corresponding with a half-inch adjustment on the target at 100 yards). The nut G used in making lateral adjustments is also fitted with a clicking device and is adapted to click out either half or whole minute movements as desired.

The sight is as firm as a rock when in position, but as nice in adjustment as any delicate mathematical instrument.

Special mention should be made when ordering as to whether full minute or half-minute clicks are desired.



The No. 9c folded down out of the way.

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG

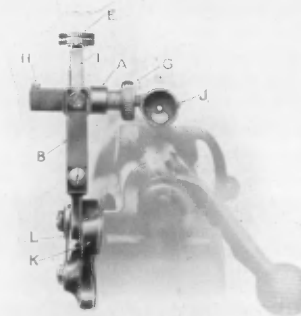
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B.S.A. "No. 9" Aperture Sights.

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FOR LEE-ENFIELD RIFLES.

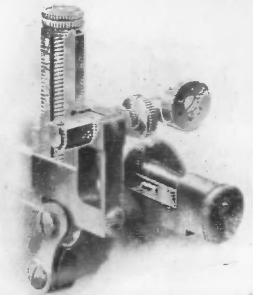
The No. 9c Pattern—contd.



The No. 9c Sight is also supplied mounted on the shorter plate or pad illustrated on the right. The benefit of an extra inch or so of sight radius is conferred by this pattern. Those whose faces very nearly approach the cocking piece when in the firing position, are advised to be careful when using this pattern, since recoil may drive it back against the face.

PRICE: See page opposite.

The illustration on the left shows the sight as seen from the rear.



THE B.S.A. PATENT 6-HOLE EYEPIECE.

Approved by the N.R.A. Council.

Suitable for practically all sights. Price 4/- each.

The revolving disc fitted to the patent 6-hole eyepiece illustrated gives the choice of six holes of diameters varying from .02in. to .07in—actually .02in., .03in., .04in., .05in., .06in., .07in. The disc is revolved by pressing the thumb or finger along the milled periphery where it extends beyond the cup in which it is mounted. The disc is held firmly in its various positions by means of a spring and piston arrangement at its back.

The advantages of the patent eyepiece are apparent. Changes of apertures for different targets or different lights can be made in a second without detaching the eyepiece from the sight. The 6-hole eyepiece is shown on the short pad sight above.



Shown on the arm of the B.S.A. No. 9c Sight.

THE No. 9a (PUSH) PATTERN.

PRICES: No. 9a each 14/6

No. 9a, with patent 6-hole eyepiece each 18/-

Postage extra.

The No. 9a is an adaptation of the original No. 9 sight, the screw adjustments having been removed to cheapen its production. When lateral and vertical adjustments have been made, the moving parts are fixed by means of the clamping screws *a* and *b* shown.

A large number of these sights are in use on Service Pattern Rifles fitted with barrels for miniature range work, for which they are specially adapted.

The B.S.A. No. 9c Sight is also supplied for the Canadian Service Rifle—the Ross. It has been passed by the N.R.A. Council for that arm.

Fully illustrated Sight Booklet
post free.

Price 19/6

Complete with fixing spring and special screws.

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

B.S.A.-Parker Aperture Sight

Patent No. 1721-1910.

ON B.S.A.-TIPPINS MOUNTING.

Patent No. 24953-1908.

FOR LEE-ENFIELD SERVICE RIFLES.
TERRITORIAL AND SHORT PATTERN ONLY.

Price 27/- complete.

Postage extra.

(Including a set of five interchangeable sight discs—'03, '04, '05, '06, '07 apertures—and fixing screws).

THE RIFLE THAT THE SIGHT IS INTENDED FOR SHOULD BE SPECIFIED WHEN ORDERING.



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 plate *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 "degree") of lateral adjustment is marked by the clicking of a spring.

The mounting consists of the horizontal plate *a*, which is hinged at *b* to the side plate, *c*. The latter is rigidly fixed to the action body by the two screws shown. The lever *d* is provided to fix the bed plate *a* in its horizontal position. The top of this lever wipes over the under cam surface of the overhanging portion of the plate *a*, and forces the latter down to a firm seating on the rifle body. Should there be a little variation in one rifle action body as compared with another, a set screw is provided to compensate. When it is necessary to remove the bolt from the rifle the lever *d* is pushed forward so that the plate *a* may be tipped up at its hinge *b*.

Notes on Rifle Cleaning.

56 pages, with 40 illustrations from original photographs and drawings.

All the best authorities are agreed that the key to successful shooting is the proper care of the weapon, whether it be a military, a miniature, or a sporting rifle.

Every rifle user should read this book carefully. It is a complete guide to the preservation of the good shooting qualities of a good rifle. Price 6d., post free 8d.

The Complete Air Gunner.

By R. B. TOWNSEND, M.A. 88 pages: many illustrations.

A most interesting book dealing fully with air rifles, their development and their miscellaneous uses. Price 1/-, post free 1/3.

B.S.A. Air Rifle Score Book, 64 pages, price 3d.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

B.S.A. No. 8 Aperture Sight

PATENT No. 26943 07.

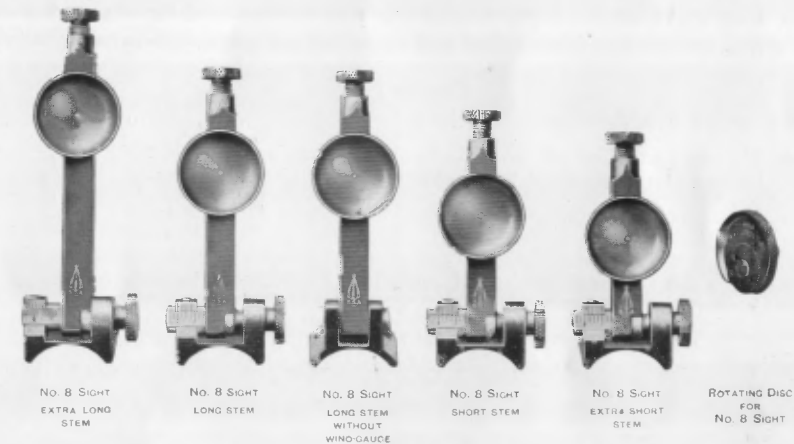
For MINIATURE and MID-RANGE RIFLES.

THE B.S.A. No. 8 sight is adapted for practically every type of miniature and mid-range rifle made. Many thousands of the sights are in every day use. Screw adjustments for vertical and lateral movements are provided as well as vernier scales by means of which movements of 1/100th of an inch (representing a shot group correction of 1/4" at 25 yards when the sights are 36 inches apart), may be made with the utmost ease.

The strong spring-influenced piston at the back of the foot of the stem, holds the sight very rigidly in position. The movements are spring controlled to do away with "backlash" or untransmitted movement, whilst by screwing the disc up tightly with the fingers the vertical adjustment may be locked.

The sight without wind-gauge is recommended for use on the cheaper sporting rifles.

The patent 6-hole eyepiece gives the shooter the advantage of a different size of peep to suit every condition under which the rifle is used.

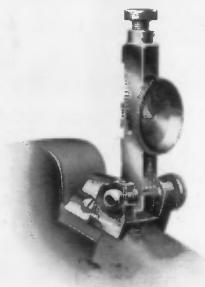


PRICES: No. 8 SIGHT, with wind-gauge ... 9/6
 " " without wind-gauge ... 6/6
 No. 8a SIGHT, i.e., fitted with 6-hole eyepiece 11/6
 Patent 6-hole eyepiece only ... 4/-
 Spare single-hole eyepiece ... 2/-

INSTRUCTIONS FOR ORDERING.

When ordering, the name of the rifle the sight is intended for, and the measurement, taken carefully as follows, should be given.

Depress the ordinary open backsight to its lowest position. Then stretch a piece of cotton from the tip of the foresight to the position above the grip of the rifle at the point where the No. 8 sight is to be fitted. The cotton must pass through the V. of the open sight. The measurement required is the height of the cotton above the top of the grip or part where the sight is to be fitted.



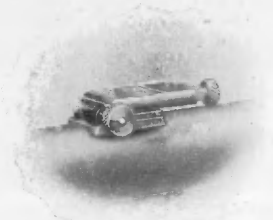
The No. 8 Sight fitted to the B.S.A. Martini Rifle.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

B.S.A. Special Backsights.

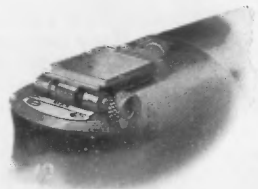
The B.S.A. Nos. 21 and 21a.



No. 21 (open) Sight on barrel. Folded down out of line of sight through rear aperture sight.



No. 21 (open) Sight, in firing position.



The No. 21a Aperture Sight. Made for the B.S.A. Air Rifle with pistol-hand stock (see page 36) only.

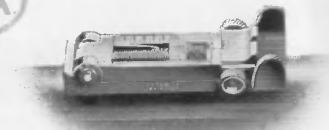
A very neat sight with no protruding parts to be damaged by chance blows. It has screw movements for vertical and lateral adjustments, and vernier scales.

Prices :

Nos. 21 or 21a sights only	...	...	...	...	7/-
No. 21, when supplied on new B.S.A. Air or No. 2 Model Rifles instead of the standard backsights	...	...	...	extra	5/-
No. 21a, supplied on B.S.A. Air Rifle in addition to standard sights	...	...	...	...	9/-

The "Australian Cadet" Pattern Sight.

B.S.A. Patents Nos. 8419 1910. 22681 1905.



The B.S.A. Martini Rifles used by the Australian Cadets (some 70,000) are all fitted with this open sight. It is very neat and strong and has screw adjustment for vertical and lateral movements. It is provided beneath the V notch with a patent light reflector.

Prices :

Sight only, with bed and protector as illustrated, for fitting to other rifles	...	...	...	...	11/6
Extra on No. 2 Model Rifle (see pages 40 and 41)	...	...	...	...	11/6
Extra on B.S.A. Martini Rifle (see pages 44 and 45)	...	...	...	...	11/6

Various Foresights.

Adapted for all B.S.A. Rifles. Various shapes. Supplied for any rifle, 1/- each.



Ring Foresight.

Each 1/6.

Simplifies aiming and can be used for approximate range finding.



Diamond.



Buckhorn.



Barleycorn.



Blade.

B.S.A. Foresights.

For TARGET and SPORTING RIFLES of all kinds.

The B.S.A. No. 19 Combination Target Foresight.



Thin ring up. Thick ring up. Bead up. Barleycorn up. Blade up.

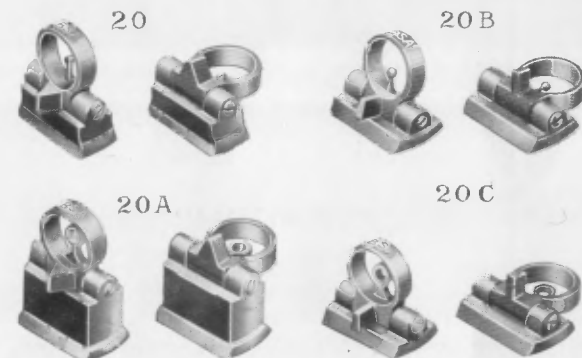
The No. 19, which is adapted for the finest of target work, and for every make of rifle, is supplied with sight pieces as follows:—

Alternatives.	Price of Sight.	Price of Angle.
No. 19 Thin Ring and Bead	4/-	1/-
No. 19 Thick Ring and Bead	4/-	1/-
No. 19a Thin Ring and Blade	4/-	1/-
No. 19a Thick Ring and Blade	4/-	1/-
No. 19b Bead and Blade	5/-	2/-
No. 19c Thin Ring and Barleycorn	5/-	2/-
No. 19c Thick Ring and Barleycorn	5/-	2/-
No. 19d Bead and Barleycorn	5/-	2/-

Special "stool" for raising sight for rifles for high sight line (such as B.S.A. Air Rifle, page 36), extra } 1/-

The above combinations **only** are supplied. The angle piece may easily be taken out by removing the two small screws on which it pivots.

Nos. 19b, 19c and 19d, have at present to be made partly by hand. The higher price is thus accounted for.



B.S.A. No. 20 Sporting and Target Foresights.

Adapted for every kind of Rifle.

	PRICE
No. 20 Bead and Barleycorn	2/6
No. 20a Ring and Barleycorn	2/6
No. 20b Bead and Blade	2/6
No. 20c Ring and Blade	2/6
Ivory facing Blade or Barleycorn extra	6d.

The No. 20 is illustrated with base for B.S.A. No. 2 Min. Rifle (page 40), B.S.A. Air Rifle (page 36).

The No. 20a is illustrated with base for W.O.M. Rifle (page 42).

The Nos. 20b and 20c are illustrated with base for B.S.A. Martini (page 43 to 46) and similar rifles.

The Rifle a sight is intended for should be carefully specified when ordering.

THE BIRMINGHAM SMALL ARMS CO. LD, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

THE BIRMINGHAM SMALL ARMS CO. LD, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Wind-Gauge Sight Slides.

Patent No. 21296 07.

Suitable for **MARTINI, LEE-ENFIELD** and other **MILITARY** and **MINIATURE RIFLES**.

THE various Slides illustrated below form valuable additions to Military Pattern Rifles which are ordinarily fitted with a sighting bar which cannot be traversed laterally to compensate the effect of wind pressure on the bullet. They are used extensively in various parts of the world.

No. 1 PATTERN.



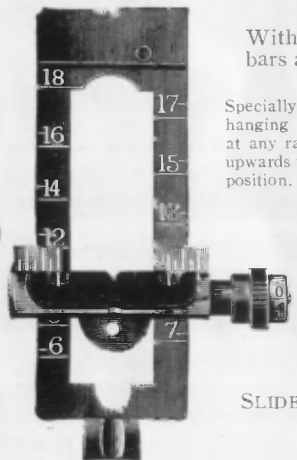
With plain bars or with V's each **5/6**

No. 3 PATTERNS.



No. 3. With two apertures
Circular or square metal round apertures each **5/6**

No. 2 PATTERN.



With V's or plain bars and aperture.

Specially designed to allow hanging aperture to be used at any range from 200 yards upwards with leaf in vertical position.

WITH SPECIAL LEAF, **8/-**

SLIDE ONLY **6/-**

No. 5 PATTERN.

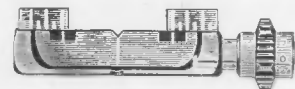
With V's or plain bars and aperture.

Has special lock nut on left hand side.

NEEDS SPECIAL LEAF.

WITH LEAF COMPLETE **9/6**

No. 4 PATTERN.



With vertical scale V's or plain bars **6/-**

GOVERNMENT "PUSH" SLIDE. PATTERN



Plain bars or V's... **3/6**

Reamers for Countersinking and Enlarging Aperture Sight Holes.



COMBINATION TOOL. One end for enlarging aperture hole, other end for countersinking back to bring edge of hole up sharp for clear definition... each **1/3**

THE BIRMINGHAM SMALL ARMS CO. LD. BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Air Rifles For TARGET and SPORTING WORK.

BORES .177 (NO. 1) AND .22 (NO. 2).

In this section the following are dealt with:—

THE B.S.A. AIR RIFLE—

	Page
Standard Pattern	36, 37
Light or Ladies' Pattern	36, 37
Junior Pattern	36, 37
Military (Long) Pattern	38
Military (Short) Pattern	38
B.S.A. "Adder" Brand Pellets	35

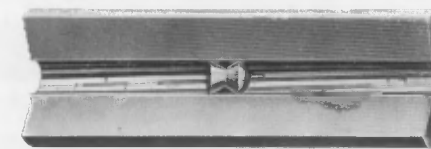
The Utility of Air Rifles.

More regular enjoyment and more positive pleasure are to be obtained from the casual use of an air rifle than from all other arms put together. To the man who must live within easy reach of his daily work, the air rifle is the only weapon with which regular practice can be obtained without going outside the limits of an ordinary suburban garden.

Problems of Design.

The mechanical problems involved in designing and manufacturing a satisfactory air rifle, have been completely solved in the B.S.A. model. Its use is accordingly unhesitatingly recommended to those who have in the past stood aloof from air guns on account of their reputation for frequently needing repair, and their hitherto incurable lack of accuracy.

The Only Good Design.



A longitudinal section of the barrel showing pellet lying in the rifled bore.

The "fixed" barrel system of the B.S.A. Air Rifle involves the use of the patent lever mechanism for compressing the piston spring (see page 36). In practically all other systems the barrel is used for this purpose. Such unfair and violent treatment of the part that actually has to direct the pellet is obviously greatly detrimental to accuracy. The breech joint of the break-down pattern is, besides, bound to become loose sooner or later, and compressed air, which should help to give velocity and energy to the pellet escapes aimlessly at this joint. The barrel and air cylinder of the B.S.A. Air Rifle are fixed rigidly together. Between them is the air-tight pellet chamber consisting of a rotary plug similar to the familiar gas cock. The barrel is "rifled" with the same care and extreme accuracy as is exercised by the Company in the manufacture of their highest priced target rifles.

The rifle is built as well in every respect as the British Service Rifle, many thousands of which are made by The B.S.A. Company yearly. The B.S.A. Air Rifle will, therefore, with reasonable care last a lifetime. The material is of the highest class, and every joint screw is held against accidental movement by a "keeper screw."



Transverse section showing rifling grooves.

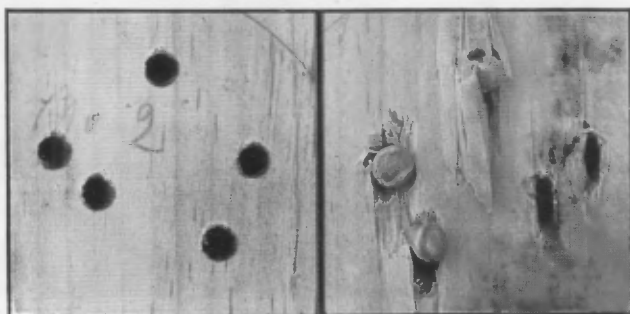
THE BIRMINGHAM SMALL ARMS CO. LD. BIRMINGHAM ENG.

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Air Rifles.

GREAT PENETRATING POWER.

5/8 in. BOARD. 25 YARDS.



Front of
5/8 in. Deal
Board.

Back of
same piece
of 5/8 in.
Deal Board.

Shot at with .22 Air Rifle at 25 yards.

It penetrates 1/2 in. of this deal board at 50 yards.

THE two bores are equally accurate, but as one .22 pellet is equal in weight to two .177 pellets and the muzzle velocity of both is just under 600ft. per sec., it follows that the energy or killing power of the .22 pellet is double that of the .177 pellet. For rabbits, rooks, etc., the .22 bore is about the best rifle made for cheap, practically noiseless and easy shooting.

The wind has less effect on the .22 than on the lighter .177 pellet. The former is, therefore better adapted for target practice up to 50 yards or so on outdoor ranges.

REMARKABLE ACCURACY.

Diagrams made at 10 yards and 50 yards ranges with the B.S.A. .177 bore Air Rifle are reproduced the exact sizes on familiar coins so that the areas occupied by the groups may be taken in at a glance.

10 yards—Standing Position.

A target made in London in open competition at 10 yards, standing position. Reproduced on a sixpenny piece.



10 yards range.

50 yards—Prone Position.

A target, 11 consecutive shots, made at 50 yards by an air rifleman at Forest Hill, London. Exact size. Prone position. Shown on a crown piece.



50 yards range.

Fully illustrated 64 page "Book of the Air Rifle," post free.
The "Complete Air Gunner," by R. B. Townsend, M.A., 1/2 post free.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

B.S.A. Air Rifle Pellets. "Adder" Brand.



.250
(No. 3)

.220
(No. 2)

.177
(No. 1)

Pellets are actually half size of illustrations

THE "waisted" form of pellet is the most successful. The "Adder" is made very accurately despite its wonderful cheapness. It does not vary more than one thousandth of an inch (.0010 in.) on the nose or one and a half thousandths (.0015 in.) on the base either side of the mean dimensions laid down.

The nose is made slightly smaller than the base. The former engages merely with the lands of the rifling. The base is driven to the bottom of the grooves so that the rifling may spin the pellet as it passes through the barrel. Friction in the barrel is practically nil, but the pellet is spun truly on its longer axis. It flies steadily and straight when it leaves the barrel, just the same as the bullets of scientifically designed high velocity military rifles.

The corrugations at the waist have no special object, being merely the result of the process of manufacture.

"Adder" Pellets are made specially for the B.S.A. Rifle, and the combination consequently gives the best results.

PRICES.

For .177 (No. 1) Bore Rifle—	1,000, one box	...	...	1/2
For .22 (No. 2) do.	—1,000, two boxes	...	...	2/8
	500, one box	...	...	1/4
For .250 (No. 3) do.	—1,000, two boxes	...	...	3/-
	500, one box	...	...	1/6

Postage (inland) on one box, 4d. extra.

No. 1 pellets are supplied in boxes holding 1,000 each, and Nos. 2 and 3 pellets in boxes of 500 each only.

PELLETS FOR BRITISH ISLES.

The inland postages on more than one box of pellets are as follows:—

Two boxes	5d.	Four boxes	7d.	Six Boxes	8d.
Three "	6d.	Five "	7d.	Seven "	10d.

Larger numbers than seven boxes are sent by rail, carriage forward. Packing cases are charged for, but full credit is given when they are returned.

PELLETS FOR ABROAD.

For the use of those abroad who desire to order, the following weights of boxes of pellets are given:—

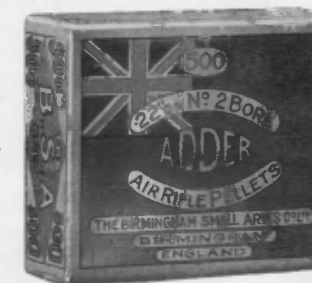
.177 (No. 1) one box of 1,000	...	1lb. 4oz.
.22 (No. 2), one box of 500	...	1lb. 2oz.
.250 (No. 3), one box of 500	...	1lb. 8oz.

Weight of packing should be allowed for in estimating the amount of postage to be remitted. The maximum weight carried by parcels post is 11lb. The box for 7,000 No. 1, or 4,000 No. 2 pellets weighs 1lb.



Reproductions half-size of the .177 and .22 Pellet Boxes. The .177 box has the white ensign in the corner, and the .22 the blue ensign.

Imitations should be avoided.



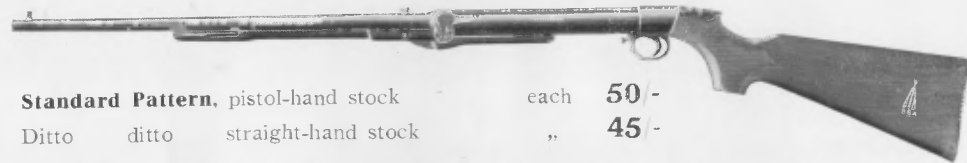
THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

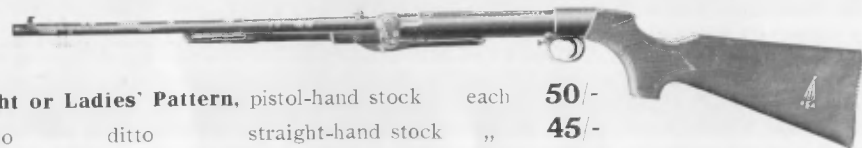
B.S.A. Air Rifles.

Patents Nos. 8761-1904, 8246-1906. Rd. No. 479972. Awarded Gold Medal, Christchurch.

'177 (No. 1) AND '22 (No. 2) BORES.



Standard Pattern, pistol-hand stock each **50/-**
Ditto ditto straight-hand stock „ **45/-**



Light or Ladies' Pattern, pistol-hand stock each **50/-**
Ditto ditto straight-hand stock „ **45/-**

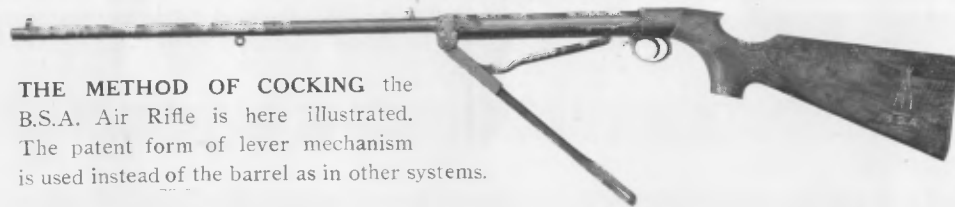


Junior or Boy's Pattern, pistol-hand stock each **45/-**
Ditto ditto straight-hand stock „ **40/-**



Illustration of Standard Pattern fitted with Straight Hand Stock.

THE METHOD OF COCKING the B.S.A. Air Rifle is here illustrated. The patent form of lever mechanism is used instead of the barrel as in other systems.



The Pellet Chamber or Breech Plug.

Is operated by means of the lever shown. After cocking the rifle it is turned into the position shown in Fig. 1. The pellet is dropped, round nose downwards, into the hole so exposed and the lever is then turned back as in Fig. 2.



Fig. 1.



Fig. 2.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

B.S.A. Air Rifles,

'177 (No. 1) AND '22 (No. 2) BORES.

SPECIFICATIONS.

	Standard Patterns.		Light Patterns.	Junior Patterns.
Bore ... ..	.177" or .22"		.177" only	.177" only
Weight of Rifle	7½lb.	7½lb.	6½lb.	5½lb.
Length over all (14½" stock) ...	43½"	45½"	39"	34½"
Length of Stock from trigger to centre of butt ...	14½" (standard)	14½" (standard)	13½" (standard)	11½" (standard)
	13½" or 13½"	13½" or 13½"	13½" or 14½"	One Length only supplied
Length of Barrel	19½"	19½"	17"	15½"
Rifling (see page 33)	Polygroove		Polygroove	Polygroove
Effective Range	50 yds.	50 yds.	30 yds.	20 yds.
Distance between Open Sights ...	17"	17"	14½"	12"

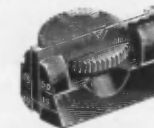
A B.S.A. '250 (No. 3 bore) Air Rifle was at one time made, but as it was no more efficient than the very successful '22 bore (see page 34) which was introduced later, the larger bore has been dropped completely. Pellets for '250 bore rifle are, however, still supplied (see page 35).

Sights.

The Sights illustrated are as supplied with the Standard Pattern Rifles.

The Backsight of the Junior Pattern Rifle is of the Standard and one folding leaf type, adjusted for 10 and 20 yards ranges.

For particulars and illustrations of Special Open and Aperture "Peep" Backsights and Sporting and Target Foresights, see Sight Section, pages 29, 30 and 31.



Standard Backsight, No. 10. Screw adjusted.



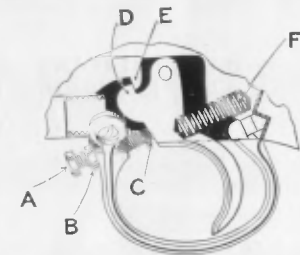
Standard Bead Foresight.

Adjustable Trigger Mechanism.



Trigger Adjusting Spanner Provided with each Rifle.

Trigger Mechanism.—A feature of the rifle is its adjustable trigger pull. The "keeper" nut B is loosened by means of the small spanner illustrated. (A spanner is sent out with every rifle). The screw A is then turned out to make the pull heavier or in to make it lighter, the nose D of the trigger being more or less engaged with the bent E of the piston rod by these movements. When it has been adjusted to the desired weight, the keeper nut B is tightened up, care being taken not to disturb the screw A again. The spring F keeps the trigger up to its proper position shot after shot.



Trigger and Piston Rod engagement.

"That the trigger pull remains constant month in and month out through periods of constant use is a wonderful tribute to the success not only of the design but also of the manufacturing processes adopted."—Arms and Explosives.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

B.S.A. Military Air Rifles.

For Territorials, Cadets and Rifle Club Members.

THIS rifle embodies the well known B.S.A. system of fixed barrel. It has the same weight, balance and general "feel" as the Long Lee-Enfield Service Rifle. It is used in many drill halls at home and abroad, officers commanding having realised that practice with it is just as good as that obtained with .22 calibre rifles, and ever so much better and cheaper than with Morris Tubes or other adaptors.

It is interesting to note that a B.S.A. Military Air Rifle and 7,000 rounds of ammunition cost about the same as 7,000 rounds of .22 ammunition ALONE, or 4,000 rounds of Morris ammunition. The barrel does not want frequent cleaning, as there is no gun powder deposit. It merely needs oiling occasionally.

B.S.A. Air Rifles, Standard and Military patterns, shoot as well as any .22 cartridge rifle up to 25 yards and better than the average shot can "hold" up to 50 yards.

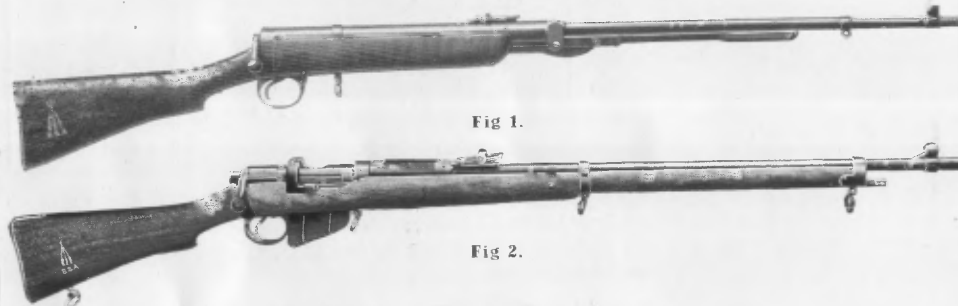


Fig. 1. The B.S.A. Military Pattern Long Air Rifle.
Fig. 2. The Lee-Enfield Service Long Rifle.

The illustrations above show how similar the Military Model Air Rifle is to the actual Service pattern arm. It will be noticed that the air rifle is even fitted with a bolt handle—dummy, of course—so that the resemblance may be made the more complete.

PRICES: The LONG Military Pattern Air Rifle, as illustrated (complete with push pattern wind-gauge backsight slide) .177 (No. 1) or .22 (No. 2) bore ... 80/-

The SHORT Military Pattern Air Rifle made exactly similar to the Lee-Enfield Short Rifle (i.e., the latest Service Pattern, see page 11), .177 (No. 1) bore only ... 120/-

B.S.A. MILITARY AIR RIFLES. Bores .177" and (Long Pattern only) .22".
B.S.A. LEE-ENFIELD SERVICE RIFLES. Bore .303".

COMPARATIVE SPECIFICATIONS:

	L.-E. Long Rifle	Mil. Patt. Long A.R.	L.-E. Mark III. Short Rifle.	Mil. Patt. Short A.R.
Length over all	49½"	49½"	44½"	44½"
Length of Stock (trigger to centre of butt)	13¼"	13¼"	13¼"	13¼"
Sights	Exactly same as corresponding Service Pattern.			
Distance between Open Sights	21"	21"	19½"	19½"
Weight	9lb. 4oz.	9lb. 4oz.	8lb. 11oz.	8lb. 11oz.
Trigger Pull	Regulation 5lb. single.	5lb. single adjustable.	Regulation 5lb. double.	5lb. double adjustable.

THE BIRMINGHAM SMALL ARMS CO. L^{td}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Miniature & Mid-Range Rifles

WITH BOLT AND MARTINI ACTIONS.

This section contains full details and prices of:

	Page		Page
B.S.A. "No. 2 Model" Miniature Rifles (the finest rifle made at its price)	40, 41	B.S.A. Martini Cadet, Target and Sporting Rifles	44, 45
B.S.A. "War Office" Pattern Rifles	42, 43	B.S.A. Martini Special Target Rifles	46, 47

There are many thousands of B.S.A. Miniature and Mid-Range Rifles in use in different parts of the world. Adapted for all kinds of shooting up to about 600 yards range they will, with lead bulletted ammunition (as distinct from high velocity cupro-nickel enveloped projectiles), last out many thousands of rounds, *providing proper attention is paid to the all important matter of cleaning.* ("Notes on Rifle Cleaning," 58 pp., with 40 original illustrations, 8d. post free; see page 28.)

The Ammunition for B.S.A. Miniature and Mid-Range Rifles.



Ballistics.

Cartridge.	Bullet weight in grains	Velocity ft. per sec.	Energy ft.-lbs.
.300 Extra Long, central fire	140	1450	652
.32/20 H.V.	nickel based 115	1640	690
.310	nickel based 120 (lead)	1200	382
.300 Rook	80 "	1150	235
.297/250	56 "	1350	226
.297/230 Long	37 "	1150	108
.297/230 Short	37 "	850	59
.220 Long Rifle, rim fire	40 "	1050	97
.220 Short	30 "	850	48

Brief Notes on Cartridges

.22 "long rifle."—A very efficient cartridge. Nothing to beat it for target practice, and with hollow nosed bullets for sporting work, up to 200 yards. Used extensively all over the world.

.22 "short."—Used for all-round work up to 50 yards. Makes little noise.

.297/230 "long" or "short."—Came into being with the Morris practice tube. Central fire cartridge. More costly than .22 but no more efficient. Still extensively used in the Services for rifle practice.

.297/250.—Good for rooks and rabbits up to about 300 yards. Not bulky nor costly, but hits hard and shoots accurately. Probably best of the series between miniature and mid-range types.

.300 extra long.—Recommended for mid-range work up to 500 yards, and for cadet rifles. The closest shooting ammunition of its class. Extensively used and highly recommended for medium game shooting in populated country.

.310.—Has a little higher trajectory curve than the .300 extra long. Used in all B.S.A. Martini Rifles supplied for Australian Cadets. (See pages 46 and 47.)

Cartridges are NOT manufactured or supplied in the ordinary way by The B.S.A. Co. Ltd.

THE BIRMINGHAM SMALL ARMS CO. L^{td}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

The B.S.A. Miniature Rifle

No. 2 MODEL.

Patent Nos. 14373/07, 19941/07.

Registered Design No. 533202.

For '22 "Long Rifle" or "Short" rim fire; '297/230 "Long" or "Short" central fire ammunition.

SINGLE SHOT.

This rifle is designed to handle rim fire cartridges perfectly.

Patent Sealed Breech Closure. The bolt head is so recessed that the cartridge base lies in a sealed chamber when the rifle is closed. Some rim fire ammunition is prone to blow back, and the B.S.A. patent recessed head quite overcomes the objection to this ammunition fault.

Striker and Trigger Action. The striker action of this arm is very lively. Perfect discharge is assured. The time between the pulling of the trigger and the starting of the bullet is so short as to be almost instantaneous. The trigger pull is sweet, and is about 4 lb. in weight—the result of perfect trigger adjustment.

Cocking. The process of self-cocking is divided. It is half done in opening the rifle, and completed automatically when the bolt is closed.

Value. It is, without doubt, by far the best value in rifles ever offered at 30/-. Most other arms at about the same price are comparatively toy-like and unsubstantial. It is the ladies' rifle *par excellence*.

Strength and Beauty of Construction. The rifle is of ample dimensions (see the specification below), and is solidly and beautifully built of the highest class of material obtainable. The parts are few and are all absolutely interchangeable.

It carries the usual B.S.A. guarantee regarding material, workmanship and accuracy.

SPECIFICATIONS.

STANDARD PATTERN—No. 2 Model.

Weight: 5lb.

Length: Over all, 41in. (3ft. 5in.); barrel, 24in. (best steel, round).

Distance: Trigger to end of stock, 13½in.; between sights, 18in.

Backsight: Screw adjustment for vertical elevation for shooting up to 200 yards. Aperture sights extra.

Foresight: Bead, or barleycorn, adjustable laterally in dovetail groove. Combination foresights from 2/6 extra.

Stock: Italian figured walnut.

Accuracy: Guaranteed.

Action: Patent safety bolt type; self cocking strong shell extractor and ejector; finely adjusted.

SPECIAL FINISH—No. 3 Model.

Specification same as above, except—

Stock: Specially selected Italian heart walnut, chequered grip, and fore-end capped with buffalo horn. Metal parts are nicely polished and blued.

Finish: Special. Mostly handwork.

PRICES.

No. 2 Model, standard pattern, each 30/-

No. 2 Model, Cadet & Scout model „ 36 6

No. 3 Model, special finish ... „ 50/-

EXTRAS.

Special open backsight, Australian Cadet pattern, screw adjustments for vertical and lateral movements, (see page 30) ... each 11/6

No. 21 Sight on barrel, screw adjustments for vertical and lateral movements instead of ordinary sight (see page 30) ... each 5/-

Aperture Sight, B.S.A. No. 8, fitted to grip of stock (see page 29) each 11/-

Ditto ditto not fitted each 9/6

B.S.A. No. 20 Combination Foresight (see page 31) ... each 2/6

B.S.A. No. 19 Combination Foresight (see page 31) ... each 4/-

Ivory faced fore-sight ... extra 6d.

Sling, with two metal snap hooks, each 2/1

Well adapted for the Most Accurate Target Work.

In the recent Lancs. v. Yorks. Match (20 "crack" shots a side), Mr. J. K. Evans made top score, 198 out of a highest possible score of 200, with a B.S.A. No. 2 Model Rifle. It shoots into 2in. at 100 yards with any good brand of '22 long rifle ammunition.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

The B.S.A. Miniature Rifle

No. 2 MODEL.

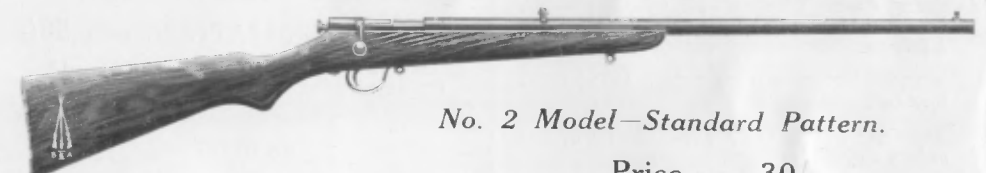
Patent Nos. 14373/07, 19941/07.

Registered Design No. 533202.

For '22 "Long Rifle" or "Short" rim fire; '297/230 "Long" or "Short" central fire ammunition.

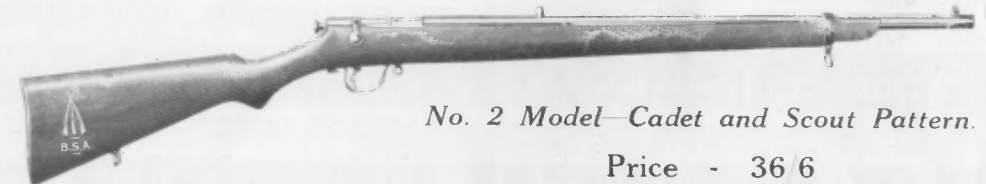
SINGLE SHOT.

IN producing and selling the B.S.A. Miniature Rifle, No. 2 Model, at 30/-, all but a very small amount of profit is sacrificed in order to give the large number of users of Miniature Rifles the benefit, at a very low rate, of a properly constructed British arm, substantial in dimensions safe in use, accurate even for the finest of target competition work, and amply powerful for killing rooks and small ground game. It is admitted by everyone who has handled or used this arm that it is very much in advance of other rifles at about the same price. We must warn intending purchasers not to be induced to accept cheap imitations because dissatisfaction only can result. See that the piled arms trade mark and the British proof marks appear on the rifle.



No. 2 Model—Standard Pattern.

Price - 30/-



No. 2 Model—Cadet and Scout Pattern.

Price - 36 6

Great Accuracy.



The 10-shot diagram here reproduced was made at 25 yards with a B.S.A. No. 2 Model Rifle. In the hands of a good shot, and with good ammunition, it will always make a one hole group at the shorter ranges, and a 2in. group at 100 yds.—the result of perfect boring, rifling and firing mechanism.

Dismounting.



Unscrew guard screw A with a coin, and swivel B with fingers.

The swivel and screw cannot fall out.

To remove the bolt hold the trigger right back.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

The War Office Miniature Rifle.

Made by The B.S.A. Co. Ltd. to Government Specification.
Bore '22 Rim Fire or '297/230 ("Morris" Central Fire.)

THIS Official Pattern Miniature Rifle has been designed by the War Department Authorities particularly for the use of members of rifle clubs, cadet corps, and similar organisations. It is a reproduction in miniature of the latest pattern Short Service Rifle (see page 11).

In deference to the wishes of the authorities the prices have been cut down to the very lowest possible point. It is a wonderfully cheap rifle considering its design and quality.

A great number are in use at home and in the colonies, its popularity having increased greatly since the introduction into the action of the B.S.A. Patent Safety Bolt, dealt with below. It is also much used as a sporting rifle.

SPECIFICATION.

Weight: Standard pattern, 5¼lb.; long fore-end pattern, 6lb.

Length: Over all, 41¼in.; barrel, 24in.; stock (trigger to centre of stock end), 13½in.

Trigger Pull: First stage of movement, between 1 and 2 lb.; final release, minimum 4 lb.

Distance: Between open sights, 18in.; from butt to backsight, 22¾in.

Magazine: For '22 rim fire long rifle cartridges only, 5 shot.

The stock may be detached from the barrel by simply removing the front swivel and the stock pin, and the only appliance that is needed to take the action entirely to pieces is a copper coin.

WITHOUT EXTRA CHARGE.

Oil bottle
Pull through cleaner with } Provided in the cavity
bristle brush } covered by butt plate.

BARLEYCORN instead of knife blade fore-sight.

BACKSIGHT WITH V instead of U notch.

For single shot rifles only—'297/230 "LONG" or "SHORT" BORE instead of '22 r.f. "long rifle" or "short" bore.

PRICES.

For illustrations see opposite page.

STANDARD PATTERN each 45/-

MAGAZINE " 5 shot " 55/-

For '22 bore "long rifle" cartridges only.

LONG FORE-END PATTERN each 50/-

For extra cost of Specially Finished rifles, fitted with picked heart walnut stocks, nicely chequered, see below.

EXTRAS.

SPECIAL FINISH, and fitted with picked heart walnut stocks, nicely chequered .. each 10/-

APERTURE SIGHT, B.S.A. No. 8, fitted to grip of stock (see page 29) .. each 11/-

Ditto ditto not fitted, each 9/6

CENTRE SLING SWIVEL, see illustration of long fore-end rifle, opposite page each 1/-

SLING, brown or black leather .. each 1/3

MAGAZINES, spare .. each 2/-

Spare parts are supplied for repair purposes only.

RE-BARRELLING .. each 16/6

B.S.A. Improved Bolt Action.

EXTRACTOR



BOLT HEAD

SECTION THROUGH BOLT HEAD SHOWING EXTRACTOR LYING IN CLOSED-IN CHANNEL.

B.S.A. Patent No. 14373-1907.

This illustration shows the B.S.A. Patent Method of entirely enclosing the cartridge extractor to prevent harm being done to it by possible "blow backs."

Cost of fitting this new action to old pattern rifles ... each 14/3

Ditto ditto and re-barrelling .. 26/6

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

The War Office Miniature Rifles

Bore '22 Rim Fire or '297/230 Central Fire.

"THE SERVICE RIFLE IN MINIATURE."

Purchasers should see that W.O. Miniature Rifles bear the following marks—part on barrel and part on action body:—

OFFICIAL GOVERNMENT VIEW MARKS:

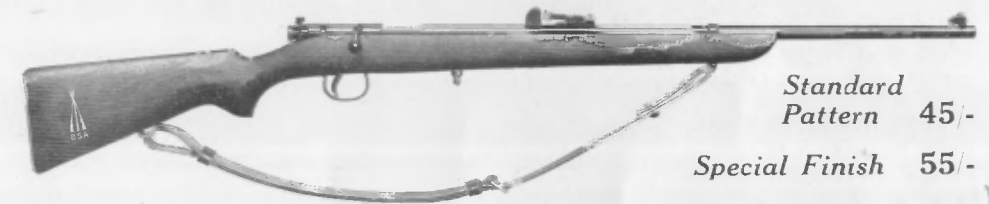
MIN. R.FLE. W.O. PATT.
R. 475418

Stamped only on rifles which accord in every respect with Government Specification.

LICENSED MANUFACTURERS' MARKS:

"Made by The Birmingham Small Arms Company Limited, Birmingham, 1908," and Trade Marks.

For specification and prices of rifles below see opposite page.



Standard Pattern 45/-

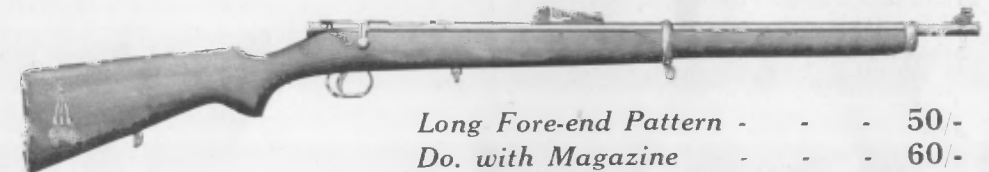
Special Finish 55/-



Magazine Pattern - - 55/-

Do. Special Finish - - 65/-

(For '22 long rifle ammunition only.)



Long Fore-end Pattern - - 50/-

Do. with Magazine - - 60/-

Do. Single Loader, Special Finish 60/-

Introduced by B.S.A. Co. specially for cadets, rifle clubs, &c.

Note B.S.A. Centre Sling Swivel.

POINTS OF CONSTRUCTION.

The stock may be detached from the barrel by removing the front sling swivel and the screw just in front of the trigger guard. The latter may easily be removed by means of a bronze coin.

To remove the breech bolt the trigger has to be held back whilst the bolt handle is turned upwards to allow the bolt to be drawn rearwards away from the rifle. Hold the trigger back to replace the bolt.

The bolt may be taken to pieces for cleaning by removing the striker keeper screw in the back of the cocking piece.

The "W.O.M." Rifle has a safety bolt which is adapted to lock the firing pin when cocked and to lock the bolt in its closed position. The lever on the back of the bolt has to be turned from left to right to lock the parts.

THE STANDARD BACKSIGHT OF THE "W.O.M." RIFLE



In principle it is exactly similar to the Sight of the Service Rifle, Mark III, Short Pattern. The wind-gauge has screw adjustment. Elevation is controlled by the slide working between the leaf and the ramps.

THE BIRMINGHAM SMALL ARMS CO. LTD., BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Martini Miniature Rifles.

TARGET and SPORTING PATTERNS.

For '22 "long rifle" or "short" rim fire; '297/230 "long" or "short" central fire; or '297/250, '300, '310 or '32/20 central fire ammunition (see page 39).

The various Martini Models described are extensively used by cadets and members of similar organizations, and for target practice generally. For sporting work the short fore-end patterns are immensely popular.

FOR CADETS & RIFLE CLUBS.—The No. 4 Model has been supplied in very large numbers for the use of cadets. An order for 70,000 has recently been executed for the Australian Government. These rifles are of '310 bore and will be used for accurate target practice up to 500 yards. Similar rifles, but for the '22 "long rifle" or '297/230 long cartridges are much favoured by members of rifle clubs, boys' brigades and scouts.

FOR SPORTING WORK.—For rook, rabbit and deer shooting, Nos. 6 and 7 Model Martini Rifles have much to recommend them. They are cheap (because so many thousands are made on the B.S.A. machine system), but material, workmanship and accuracy are, as usual, fully guaranteed.

SPECIFICATIONS.

Models No. 4, 5, 6 & 7.

Illustrated on page opposite.

Weight: Nos. 4 and 5, .22 or .297/230 bore, 6lb. 2oz.; .300 or .310 bore, 5lb. 13oz. Nos. 6 and 7, .22 or .297/230 bore, 5lb. 13oz.; .300 or .310 bore, 5lb. 8oz.

Lengths: Over all, 40 inches; barrels, 25 1/4 inches.

Distance: Of trigger from end of butt, 13 1/2 inches; between open sights, 18 inches; between fore-sight and aperture backsight, 27 inches.

Backsight: Tangent leaf or sporting sight with two folding leaves. Wind-gauge slide or aperture sight extra (see page 32).

Foresight: Bead, barleycorn or knife-blade. Special combination foresights extra (see page 31).

Action: Dismountable. Indicator shows when rifle is cocked.

Barrel: Round, best steel. Interior may be viewed or cleaned through a hole in rear of the action body.

Superior nickel steel. 5/- extra.

Stock and Fore-end: Italian walnut. Blued Lutt plate.

EXTRAS:

Slings Swivels: As shown in the illustrations. Butt swivel 8d. extra.

Slings: 1/3 to 2/1 each extra.

No. 7 MODEL "SUPERB."

Those who take a pride in the possession of an "arm de luxe," highly finished in every degree and with a finely figured stock, cannot do better than purchase the best quality arm, No. 7. The specification is the same as that above, with the exceptions that a beautifully figured walnut stock is fitted, the grip and fore-end are chequered (a horn cap being fitted to the latter), the action is border engraved and all metal parts are polished and blued. For full instead of border engraving, 5/- extra is charged. For nickel plating various parts, 5/- extra.

Illustration showing (1) action detached—without tools—and (2) the full scroll engraving—on body, guard, lever and butt plate—for which, in addition to border engraving (see No. 7 Model), an extra charge of 5/- is made.

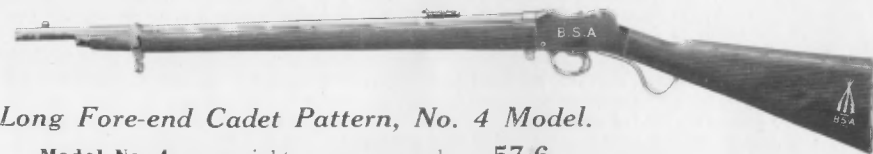
THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

B.S.A. Martini Rifles.

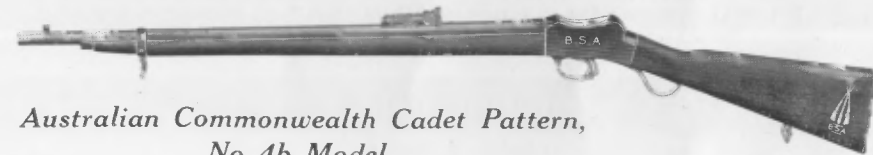
TARGET AND SPORTING PATTERNS.

For Cartridges '22 "Short" or "Long Rifle" Rim Fire; '297/230 "Long" or "Short" Central Fire; '297/250, '300, '310 and '32/20 Central Fire.



Long Fore-end Cadet Pattern, No. 4 Model.

Model No. 4, open sights	each	57/6
Model No. 4a, i.e., No. 4, but fitted with No. 8 aperture backsight and No. 20 or 20a foresight (see pages 29 and 31)	each	69/6
Model No. 5, i.e., No. 4, but fitted with heart walnut stock, fore-end chequered and polished, open sights	each	67/6



Australian Commonwealth Cadet Pattern, No 4b Model.

Fitted with special patent backsight, with screw adjustments for vertical and lateral movements, as illustrated

each 69/-

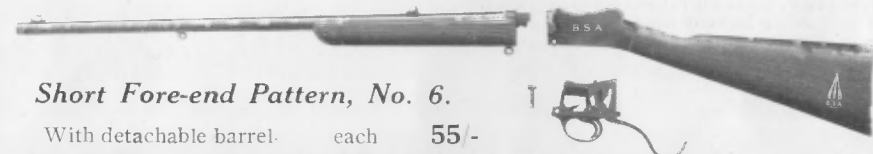
Special quotations for large numbers.

(Supplied by the B.S.A. Company Ltd., in very large numbers to the Australian Government for the use of the Cadets of the Commonwealth.)



Short Fore-end Pattern, No. 6 Model.

No. 6 Model	each	52/6
Model No. 6a, with No. 8 aperture backsight and No. 19 target foresight (see pages 29 and 31)	each	66/-
Model No. 7 "Superb," as illustrated, see specification on page opposite	"	80/-
Model No. 7, fully (scroll) engraved	"	85/-



Short Fore-end Pattern, No. 6.

With detachable barrel

each 55/-

No. 6 Model, with detachable barrel.

Beautifully figure engraved, highly finished, specially picked walnut stock and No. 8 aperture backsight (see page 29). Nothing better is made

each 116/6

B.S.A. Martini '22 Rifles will shoot consistently into 2in. circle at 100 yards.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors

B.S.A. Martini Rifles.

SPECIAL TARGET PATTERNS.

For '22 "short" or "long rifle" and '300 extra long cartridges only.

THE astonishing improvement that has been made in the few recent years in the manufacture of the .22 "long rifle" cartridge has resulted in the demand for rifles made with mathematical accuracy in every particular. The very extensive experience of The B.S.A. Company in the production of high-class rifles has been employed with wonderful effect in this connection.

The construction of the chamber, the twist, depth and shape of the rifling, and other minute details of the barrel which have so great a bearing on the accurate direction of the .22 bullet; the correct fitting and construction of the action, so that it may properly support the head of the cartridge and correctly detonate the priming; and the important matters of balance and comfort in handling, have been reduced by the Company almost to an exact science.

The result is that B.S.A. .22 rifles are consistently capable, in the hands of a good shot, of grouping within a 2-inch circle at 100 yards, or 4-inch circle at 200 yards. B.S.A. .22 Target Rifles are not allowed to leave the factory unless they conform to a very high standard based on these performances.

For the most accurate mid-range practice up to 500 yards B.S.A. Martini Rifles are supplied with barrels for the close shooting .300 extra long cartridge.

World's Record at the three ranges—100, 50 and 25 yards (squadded shoot):
299 out of a possible 300, was made in 1911 by Mr. J. Pepe, Southfields and Daily Telegraph Rifle Clubs, with a B.S.A. Martini Target Rifle.

SPECIFICATIONS.

Models 8 and 9.

Weight: No. 8 Model, 6lbs. 9oz.; No. 9 Model, 6lb. 14oz.
 These models are 12ozs. heavier than Models 4-7. The extra weight lies entirely in the Barrel.

Barrel: Round; best Steel. Outside diameter at muzzle, $\frac{3}{4}$ in.; at breech, 1in.

Special nickel steel, 5/- extra.

The Length, Sight, Dimensions, Action, Stock, Swivels, etc., of these models are exactly the same as those of Models 4-7, dealt with in the specification on page 44.

Models 10 and 11.

Weight: 8lb.
Length: 44in.

Trigger pull: 4lbs. Other weights must be specified.

Barrel: Length, 28 $\frac{1}{2}$ in.; Best Steel, round; diameter at breech, 1in.; diameter at muzzle, $\frac{3}{4}$ in.

Special nickel steel, 5/- extra.

Distance: Between open sights, 20 $\frac{1}{2}$ ins.; from butt plate to open backsight, 22ins.; between foresight and aperture backsight, fitted just behind body, 31in.

Model No. 12.

It is not possible at present to make a more accurate rifle, and VERY difficult to make one as good.

Weight: 8 $\frac{1}{4}$ lb.

Barrel: Round, best steel, and plenty of it; diameter at breech, 1in.; diameter at muzzle, $\frac{3}{4}$ in.

Special nickel steel, 5/- extra.

Length: Over all with 14 $\frac{1}{2}$ in. stock, 45in.; barrel, 28 $\frac{1}{2}$ ins.

Stock: Italian walnut, nicely polished; chequered butt plate.

Distance: Of trigger from end of butt, 13 $\frac{1}{2}$ in. or 14 $\frac{1}{2}$ in. (14 $\frac{1}{2}$ in. stock sent unless otherwise ordered); between open sights, 18in.; between foresight and aperture backsight, 30in.

Fore-end: 11in. long.

Pear-shaped in section to adapt it properly to the grip.

Action: Dismountable; indicator shows when rifle is cocked.

Balance: About an inch forward of trigger guard; can be altered as desired.

Mr. J. Pepe, World's Record Holder, with a B.S.A. Rifle (see above), has made 599 out of a possible 600 in competition at all ranges this year with his B.S.A. rifle. It was purchased practically a year ago, and he has discharged over 20,000 rounds of U.M.C. cartridges from it. The rifle is still in good condition, and has never once leaded since he has had it.

THE BIRMINGHAM SMALL ARMS CO. L^{TD}, BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.

B.S.A. Martini Rifles. Special Target Patterns.

For '22 Rim Fire and '300 Central Fire extra long Cartridges only.

For particulars of the B.S.A. No. 8 Aperture Backsight and various Target Foresights see Sight Section pages 29 and 31.



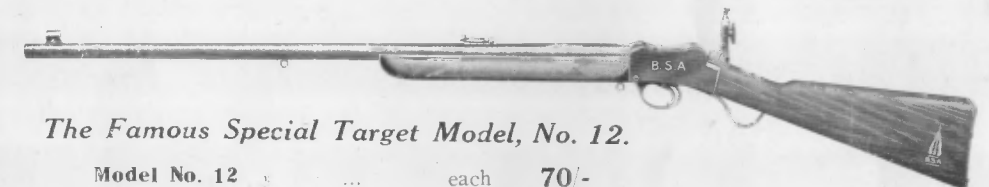
The Heavy Barrel Pattern, No. 8.

Model No. 8 ...	each	52/6
Model No. 8 , with special heavy fore-part, pear shaped in section	each	55/-
Model No. 8a , with No. 8 aperture backsight and No. 20 or 20a target foresight, as illustrated ...	each	64/6
Model No. 8b , fitted with heart walnut stock, highly polished, chequered and engraved (see pages 44 and 45, Model 7) ...	each	80/-
Model No. 9 , with long fore-end ...	each	57/6



The "Military Miniature" Pattern, No. 10

Model No. 10 , with special large grip fore-end, each	70/-
Model No. 10a , as illustrated, with B.S.A. No. 8 aperture backsight and No. 19 target foresight (see pages 29 and 31) ...	each 83/6
Model No. 11 , special, with selected heart walnut stock, highly polished and chequered ...	each 80/-



The Famous Special Target Model, No. 12.

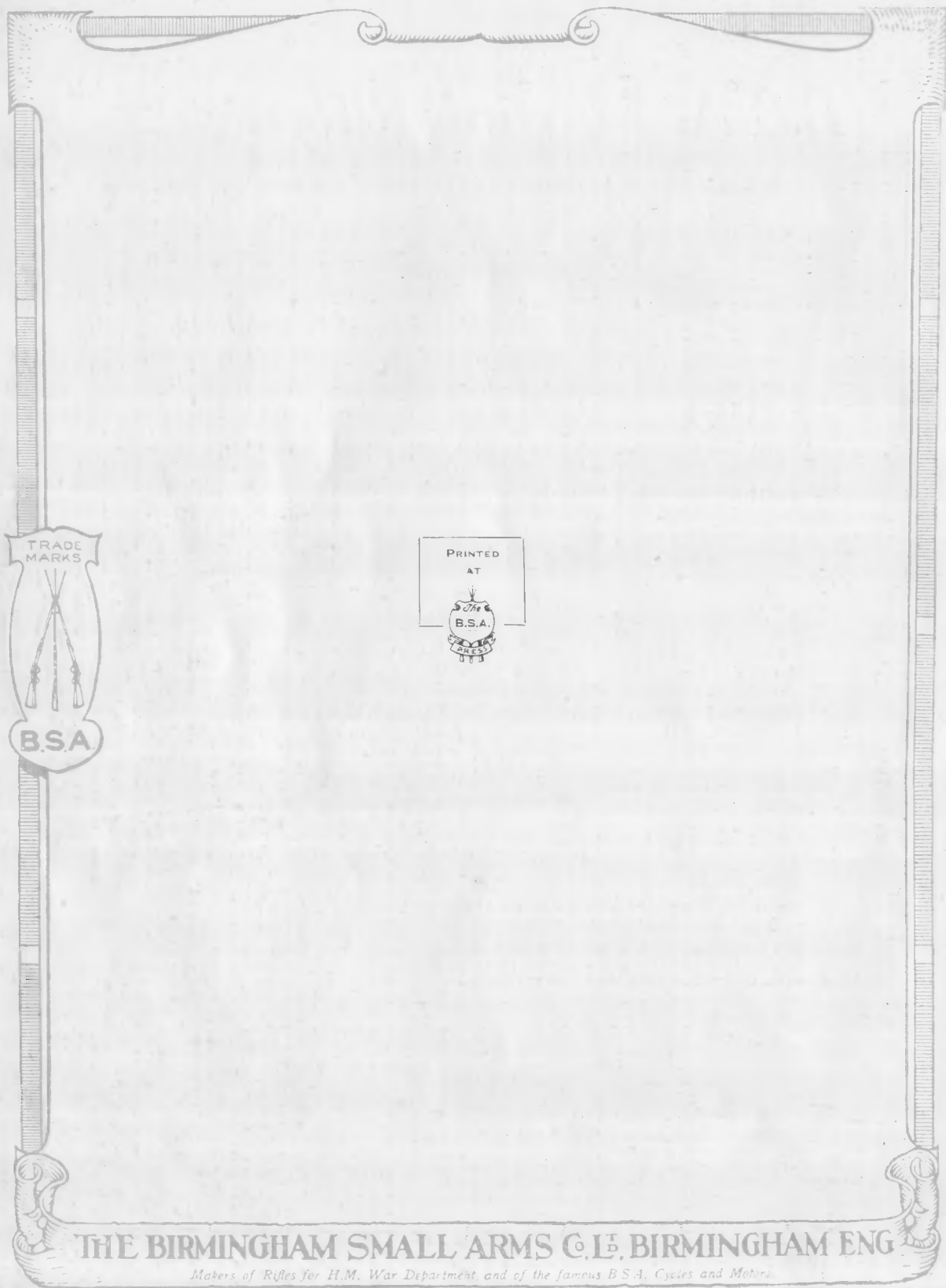
Model No. 12 ...	each	70/-
Model No. 12a , fitted with B.S.A. No. 8 (page 29) backsight and No. 19 target foresight (page 31), as illustrated ...	each	83/6
Stocks, with full pistol-grip or to special dimensions have to be made from the walnut in the rough entirely by hand. A special charge has, therefore, to be made of extra		50/-
Allowance for tangent leaf sight , if not wanted on barrel		3/-



Top view of the action of No. 12 Model, exactly half-size, showing how much better it is adapted for dealing with the miniature '22 rim fire cartridge than the clumsy full size military action. Notice the thick walls of the action body and the neat attachment of the B.S.A. No. 8 Sight (shown folded down).

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THE BIRMINGHAM SMALL ARMS CO. L^d. BIRMINGHAM ENG

Makers of Rifles for H.M. War Department, and of the famous B.S.A. Cycles and Motors.