

Airgun

issue 2



Picks from my personal library

John Atkins selects books of special importance to the airgun collector

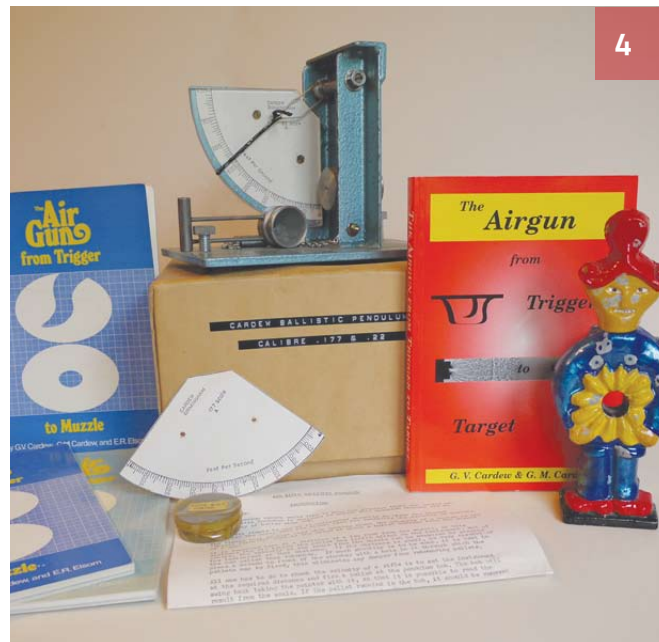
Wraparound powerplant – foreign concentric pistols

John Griffiths examines a key design in this second part of his article

Dasch in Gratz – a bellows look-alike

Larry Hannusch acquires a familiar gun and finds it's packing a spring

Index



4



32



57



24



45



84

4 The Atkins library

Leading writer John Atkins chooses books that hold particular interest for the vintage airgun collector

22 CO2 transformation

Pump-up tweaker *par excellence*, Lawrie Amatruda, puts his skill where his mouth is with an Innova

45 Airguns and me

Veteran writer and collector, Trevor Adams, describes his early love of airguns and how it changed his life

57 Pursuit of perfection

Barry McKenzie, who restores airguns to 'as new', offers tips on how to improve the woodwork

74 Sheridan's world-beater

'Mr Super-Grade', U J Backus, tells us why this 1950s masterpiece of design deserves its name

87 Silicone solution

Andy Lake takes the plunge and shows that moulding new parts isn't beyond the skilled amateur

100 Mr D's World War Three

In this tale, the AirgunBBS's top Airsporter owner puts down an insurgency – a relic of the Cold War

The contributors to this magazine have kindly agreed that their work should be made freely available to anyone who is interested. The authors of the works herein retain their copyright and take responsibility for the accuracy of the contents.

John Atkins: A selection from my personal library

The world's most prolific writer on vintage airguns, **John Atkins**, who has had substantial columns published in national magazines month after month, year upon year, for decades, and whose own body of work amounts to a major volume, selects from his library key books of interest to the collector. In this article, they date from 1850-1980 and include such seminal works as Walter 'WHB' Smith's 1957 *Encyclopedia of Gas, Air and Spring Guns of the World*.

'Give a wise man books and he will be yet the wiser...' someone once said. Clearly, the quotation is only correct if the books are good and informative ones - but should they contain errors, misinformation and nothing really new, then the wisdom of the confused reader will not be increased at all - and might even be lessened!

Maybe we can't apply the saying to us? Just how 'wise' airgun collectors' are (to have ever started in the first place!) is open to debate. One argument against becoming a collector being that because the scope is so infinite, no one will ever get an example of them all; although not all of us set our sights that high.

To many, including at least three of my past girlfriends, collecting of anything, takes up valuable time and room that could be used for something else. While women can cleverly 'multi-task' by juggling things... maybe they don't

understand singular obsessions and that collecting is more often a male thing, such as the need to focus on one particular job - like the male urge to hunt - or maybe just escaping to the shed or loft where their collections have to be confined!

To an unsympathetic minimalist, the hoarding of anything is a form of mental illness but I disagree. True, the urge to collect can reveal an inability to let go, but a love of hoarding things and the search for the unobtainable are two passions right at the heart of collecting. To many (including myself), airgun collecting is a worthwhile hobby, with social benefits and a mission to preserve something we feel is important from the past as a custodian of a small part of the world's history.

To the more business-like, or mercenary, airgun collecting is a form of investment but there's nothing wrong with that, either, as putting a realistic value on the items we

collect and giving them some worth all helps in their preservation, as worthless items just get thrown away.

But two reasons I think we all collect airguns for, is firstly because we like them and, secondly, that we want to find out more about them and that's where reference books and other reading material such as old sporting goods magazines are often indispensable. Rather than include catalogues in this article, I'll stick to books and booklets only, in date order of publication but should you have copies of periodicals of interest, for example: *The Working Man's Sporting Gazette and Air Rifle Review* (published in Birmingham, fortnightly from April 1905), the editor and I would love to see scans because these newspapers have yet to be located - and the airgun content must be high.

Among the essential airgun books for collectors shown in **Figure 1** are the classic bibles of the 1950s: *Air Guns and Air Pistols* by Leslie

Wesley, 1955; W. H. B. Smith's *Gas, Air and Spring Guns of The World*, 1957 and *Air Guns* by Eldon G. Wolff, 1958 - but before elaborating on these, I'll start to look at some earlier works. While Smith's and Wolff's books are still available to buy new, originals of others on the second-hand market are often prohibitive price-wise for most of us, but facsimile copies and reprints of a couple of real oldies can be found by diligent searching.

I have no space here to continue past 1980 - so am unable to recap on 'Moderns' such as: John Knibbs' three excellent B.S.A./Lincoln Jeffries books published 1986, 2002 and 2012; *Quackenbush Guns* by John Groenewold, 2000; *Webley Air Pistols* by Gordon Bruce, 2001; the essential *The Encyclopedia of Spring Air Pistols* by John Griffiths 2008; *Webley Air Rifles* by Christopher Thrall - all of which, I have fully reviewed in *Air Gunner* magazine down the years and thoroughly recommend.

Among literally thousands of letters I've received about airguns, I still recall one outrageously cheeky one from an *Airgun World* reader over 30 years ago, who wrote to ask me to make him Photostats of all 280 pages of Walter Smith's airgun book as he 'didn't want to waste money buying a copy'. I pointed out the copyright and legal situation that can apply to photocopying or reproducing by any other means, any part of a book - unless sometimes for review purposes (or articles like this one) and told him I had better things to do with my most precious commodity, i.e. my spare time - than stand over a photocopy machine wasting my paper and toner for hours on an illegal activity for a total stranger who (like so many others) seemed to think he'd bought my unlimited time and services for the price of a magazine! I didn't hear from him again.

I'd originally planned to go into mind-boggling detail on every fire-arms book I hold containing reference to airguns but the editor gently



Fig. 1: Every collector needs to build up a library that includes classic airgun bibles of the 1950s: 'Air Guns and Air Pistols' by L. Wesley, 1955; W. H. B. Smith's 'Gas, Air and Spring Guns of The World', 1957 and 'Air Guns' by Eldon G. Wolff, 1958.

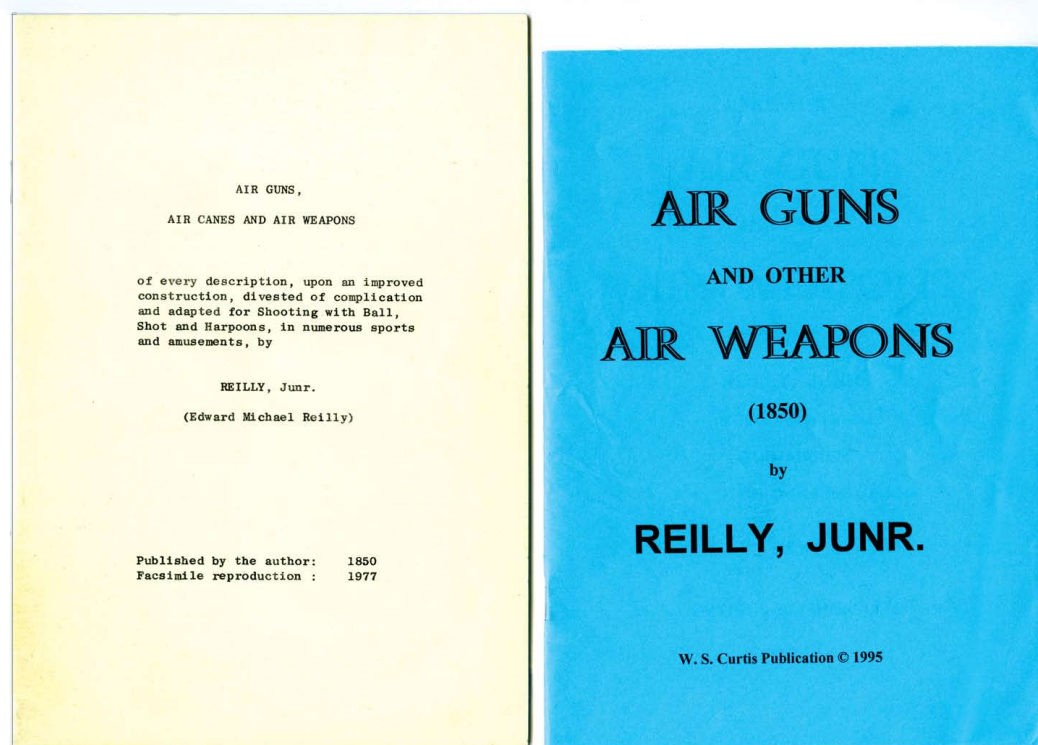


Fig. 2: 'Air Guns, Air Canes and Air Weapons' by Edward Michael Reilly, I don't have an original 1850 edition so the two publications I'm showing are (left) a facsimile of 1977 the late Roy Valentine had reproduced. Shown alongside it, is a blue soft cover W. S. Curtis Publication of 1995.

reminds me that deadline is looming and space is limited - so this will be a round-up of books from my own library I find essential - or at

least useful - in my role as an amateur airgun researcher. Publishers of the older books will seldom be mentioned because they sometimes changed, for example W. H. B. Smith's *Gas Air & Spring Guns* was Castle Books changing to Arms & Armour Press in 1978 with the first paperback edition appearing in 1982 - while Dunathan's *The American B.B Gun* was initially A. S. Barnes & Co., Inc. in 1971 with R & R Books first reprinting in 1997, etc.

Victorian Era

Apart from ancient encyclopaedia

mentions of pneumatics and steam guns, the first specialised booklet I know of was an interesting one on pneumatics by Reilly Junr. (Edward Michael Reilly). Either he, or Joseph Charles Reilly (whose .417 cal. cased air cane I have featured in past writings) advertised a fore-runner of this work in *The Illustrated London News*, July 24, 1847 Page 63 as a 'Treatise, price 6d.; by post, 8d -Reilly Gun-maker, Elizabethian (sic) Building, New Oxford-street - Removed from 316, Holborn.'

1850 *Air Guns, Air Canes and Air Weapons*, by Edward Michael Reilly, see Figure 2. I've seen an original edition but don't have one to show here. However, the two publications I'm showing are a facsimile reproduction of 1977, the late Roy Valentine had produced, having 20 pages of original type matter including two pages of faint line drawings of air



Fig. 4: This German language handbook of shooting sport contains pages with reference to M. Flürscheim, Eisenwerke Gaggenau in Baden and illustrates his Air Pistol MF and No. 1 gallery model.



Fig. 5: A photograph from 'Modern Sporting Gunnery' 1906 by Henry Sharp, shows a soldier - possibly the sight-maker, Armour Sergeant E. H. Parsons, the co-patentee of the Westley Richards' combination air-gun and service rifle that same year.

canes and air rifles in the back.

Shown alongside it, is a blue soft cover W. S. Curtis publication, Rhyl, Clwyd LL18 5XG of 1995 with a slightly altered title: 'Air Guns and other Air Weapons (1850)'. Entirely re-typeset making it easier to read but without the two pages of line drawings at the back. These booklets give the original prices of guns, apparatus and pumps, cloth covers and mahogany cases, shot cartridges, harpoons of various types plus barbs and plaited line. There are technical pages and directions for using including air harpooning.

1881 *Handbuch des Schiess-Sport* of Von Friedrich Brandeis with 48 figures. A. Hartleben's publishing house 1881. See Figure 3. This German language handbook of shooting sport contains pages with reference to M. Flürscheim, Eisenwerke Gaggenau in Baden and illustrates his Air Pistol MF and No. 1 gallery model as you can see in see Figure 4.

1906 *Modern Sporting Gunnery*, by Henry Sharp, with many line and photo illustrations. Quite expensive nowadays, a copy selling for £65 hammer price at Wallis & Wallis 1st May, 1996. The illustration from the book shows a soldier (Figure 5) - possibly the sight-maker, Sergeant Armourer Edward Henry Parsons, the co-patentee that same year of the Westley Richards Combination Airgun and Service Rifle with Leslie Bown Taylor of Westley Richards; the object being to render the air rifle of great service in teaching persons the art of shooting with a service rifle and to accustomise them

from the beginning to the service arm which they were subsequently to use.

As a young man, Leslie Bown Taylor wanted to be an actor and once ran off to go on the stage. That's absolutely nothing to do with collecting useful airgun books, but I thought I'd throw it in anyway! Mr. L. B. Taylor died on the 22nd Sept., 1930 aged 67.

Probably the actual prototype air rifle (British Patent 5495) seen in the photograph complete with automatic self-opening tap with external coupling linkage (Charles Gardner and L. B. Taylor's British patent 2863 of 1906) and dummy magazine, was sold a while back in auction. At the time, I requested by both postal letter and emails to purchase a catalogue and an image of the prototype rifle large enough for reproduction to the auctioneers but the request was repeatedly ignored due to them being 'too busy' - a very rare case of lack of co-operation from an auctioneer, so I can't show you a photograph.

It sold for only the usual price nowadays of a later production BSA Military Pattern air rifle. Although not in good condition, I felt it was worth a lot more - being a historically important piece and should have gone to a more specialised auction house - but congratulations to

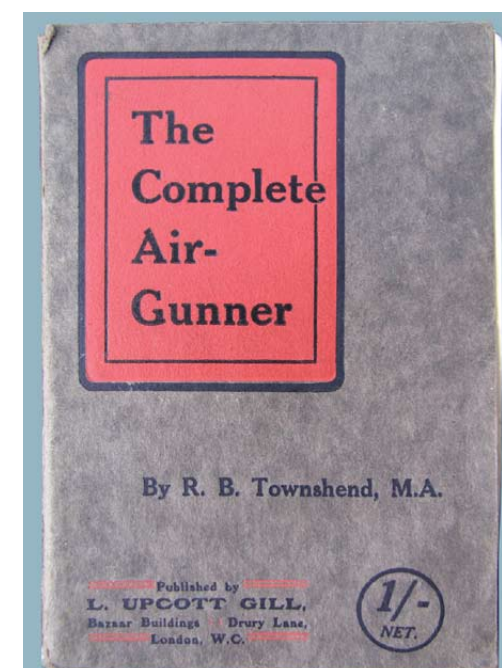


Fig. 6: 'The Complete Air-Gunner'. This is a slightly later, soft back copy. [Photo courtesy of John Milewski.]

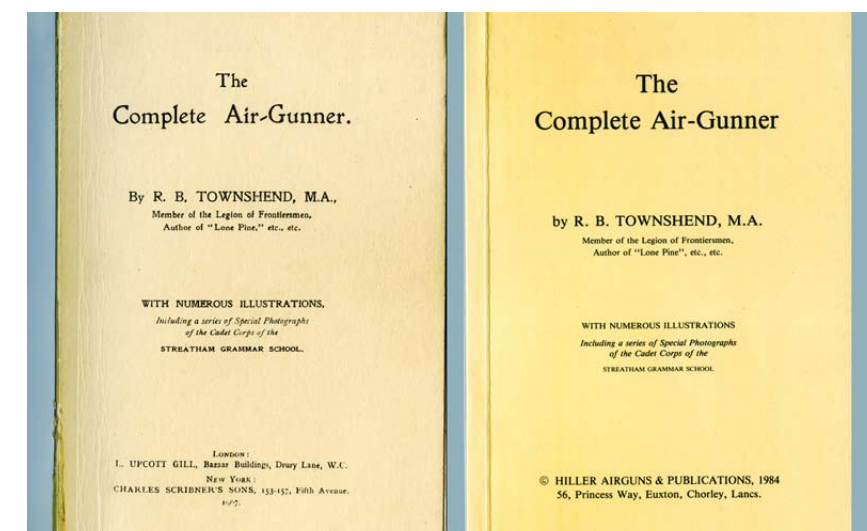


Fig. 7: Left: Facsimile of the Townshend book Roy Valentine had reproduced c.1977 and right: Hiller Airguns & Publications, September, 1984.

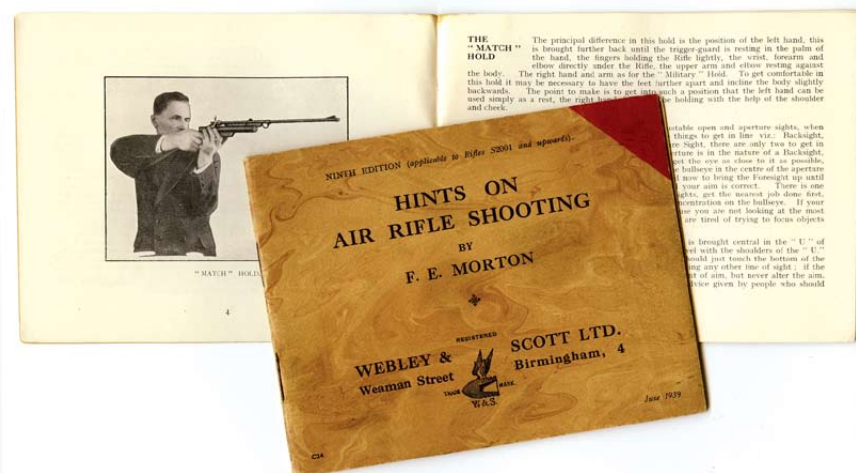


Fig. 8: Two copies of the June 1939, ninth edition of Frank Morton's 'Hints on Air Rifle Shooting'.

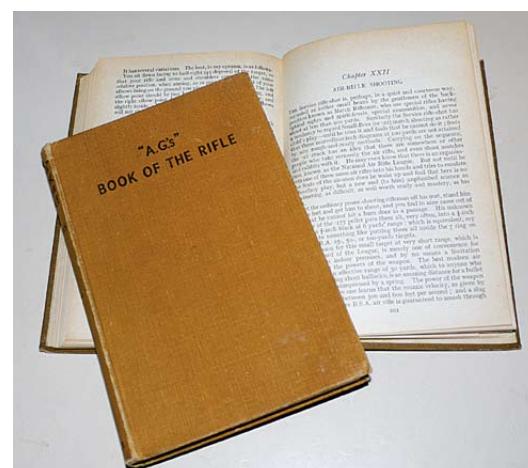


Fig. 9: Two fourth editions of 'A.G.s' Book of The Rifle' first published in 1940.

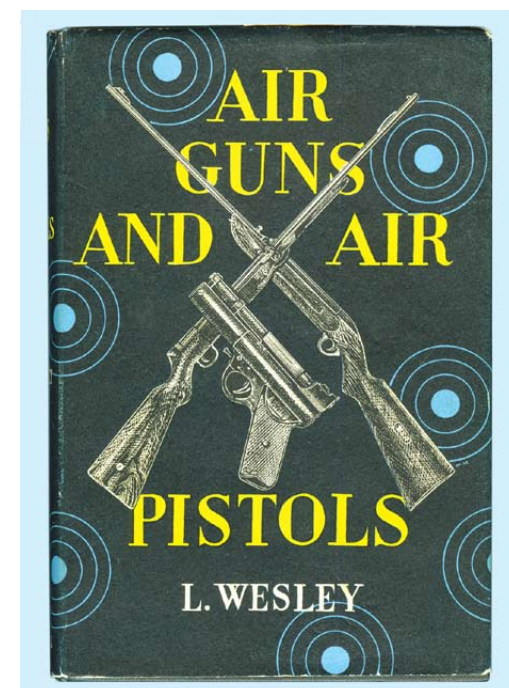


Fig. 10: Wesley's book of 1955, with 16 pages of half-tone illustrations.

whoever bought it (and can you please send me a photograph of it c/o Air Gunner!)

1907 *The Complete Air-Gunner*, by Richard Baxter Townshend. M.A. Both hard and cheaper soft back editions. R. B. Townshend was a most fascinating character; a member of the Legion of Frontiersmen, author of 'Lone Pine' (Methuen, 1899; reprinted as one of Methuen's Six-penny Novels in 1913) and many other books recounting his experiences in the United States.

An amateur actor, he also wrote *Inspired Golf* (Methuen, 1921) at a time when he was treasurer of Oxford University Golf Club. R. B. Townshend's niece, Charlotte, was, incidentally, George Bernard Shaw's wife. Being a friend of Edward Elgar, Townshend was the subject of the third of the *Enigma Variations* written by the composer - as I unveiled in *Air Gunner* magazine May, 1998. I don't have either of the original books - having never seen them available to buy in good condition but the cover of an original soft back copy belonging to John Milewski can

be seen in Figure 6. R. B. Townshend spent a lot of time in the Wild West and at one time was actually held up by William H. Bonney (Billy the Kid) wanting to steal his livestock. The intended theft was unsuccessful and came to nothing - so maybe the Kid was simply overawed by the Englishman?

The first facsimile copy shown left of Figure 7 is something of a mystery. It came to me in the post in the late 1970s from Roy Valentine without explanation as to who had put it together. When I asked Roy what I owned him for it, cash-wise, he said little about the origin of the edition - apart from replying to my question with: 'Nothing - but you owe me a big favour!' Over the years, I think the debt was paid.

Later, in September, 1984 Dennis Hiller's reprint shown on the right of Figure 7 allowed *The Complete*

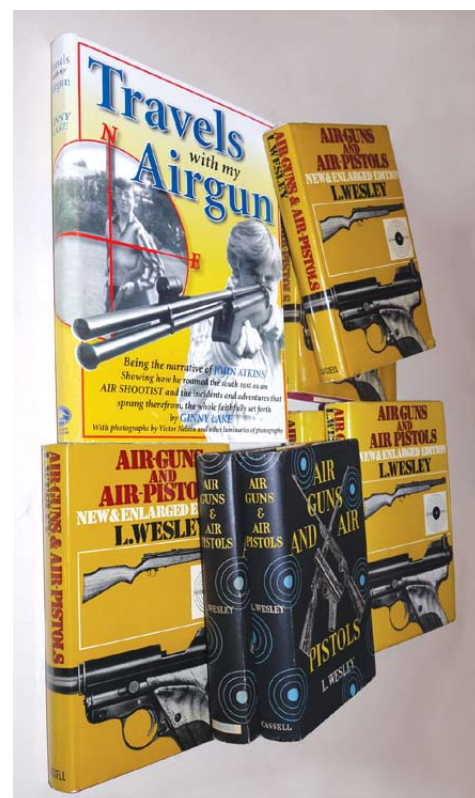


Fig. 11: See lower centre: First edition of 'Air Guns & Air Pistols' by L. Wesley, 1955 with 'Cassell' on the spine reversed out of the black cover. Next to it is a second edition of 1957 - the publisher's name in pale blue in a white panel at the foot of the spine.

Air-Gunner book a larger audience. Although Dennis stated that it was the second edition, if you count Roy's excellent reprint, then Dennis' must be the third!

Famine Years for airgun books!

To the best of my knowledge, not a lot else happened book-wise up until the Great War or during the inter-war years apart from numerous articles in sporting magazines and well-written brochures and instructions from firms like BSA and Web-

The book contains a vast amount of shooting information in general and specifically the oft-told tale of the hat on an expensive walking stick set up as an 80-yard target by a man who doubted that the Bonehill shooter could hit

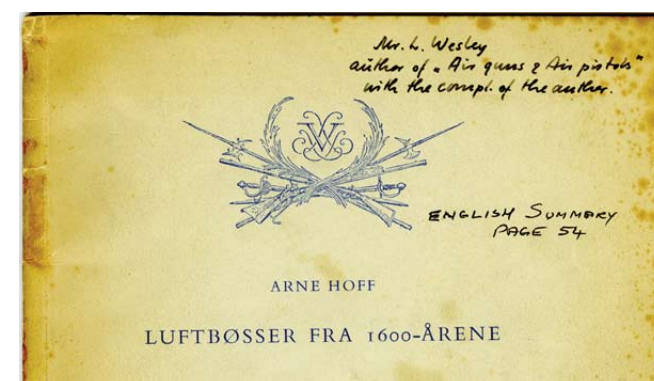


Fig. 12: This unique copy of Arne Hoff's 'Luftbosser Fra 1600-Årene', Stockholm 1955 is inscribed by the author.

it at that long distance only to find his hat with neat holes corresponding to the number of shots fired and his cane smashed up by the .22" pellets.

As I've no confirmation that any Bonehill-made air rifles started life in No. 2 bore, I have my doubts about this story - although I know of 100-yard shooting with a Britannia by Eric Lear - but his rifle was adapted to have concentric springs with a Webley 'Senior' spring inside the mainspring.

Essential '50s Classics

1955 *Air-Guns and Air-Pistols*, by L. Wesley. Well executed scraperboard

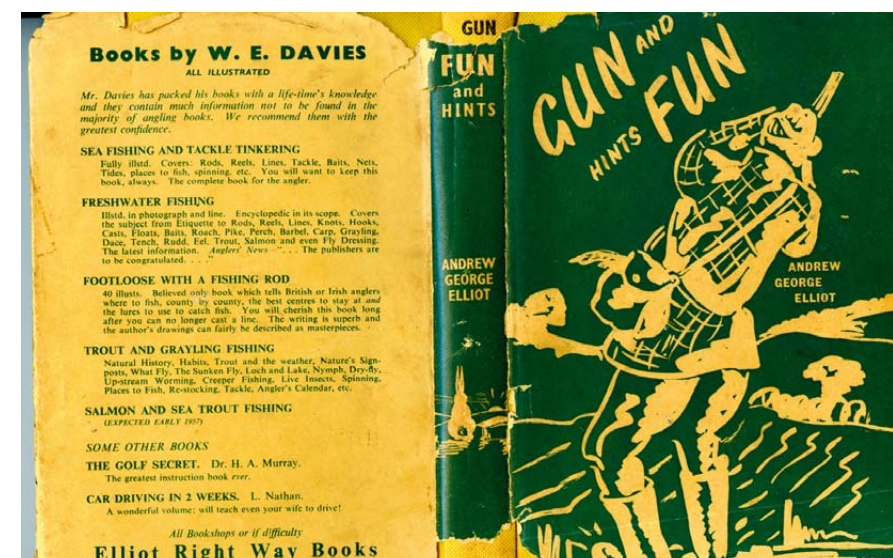


Fig. 13: 'Gun Fun and Hints' 1956 was written in two days by the author, Andrew George Elliot during the aftermath of 'flu.

ley that are now all very collectable.

1939 *Hints on Air Rifle Shooting*, by F. E. Morton, International Rifle Shot. Figure 8 shows two copies of the June 1939, ninth edition of Frank Morton's 'Hints on Air Rifle Shooting' dealing with shooting and maintaining the Webley Service Air Rifle - Mark II that contained a lot of useful material by Webley's chief gun tester and revolver instructor.

1940 *A.G.s' Book of The Rifle*, by A. G. Banks. Queen's Cup Winner, Small-bore English International. Figure 9 shows two fourth editions first published in 1940. Lieut. Banks's book contains in the Air-Rifle Shooting chapter, an account of shooting the Cox Britannia (which he refers to as a 'Bonehill' - after the manufacture); the B.S.A. No. 2, The Webley Service Mark II in .177" and the 'cam-back' Greener.



Fig. 14: Still selling well today, 'Gas, Air & Spring Guns of the World' first published in 1957 is a key reference book, profusely illustrated.

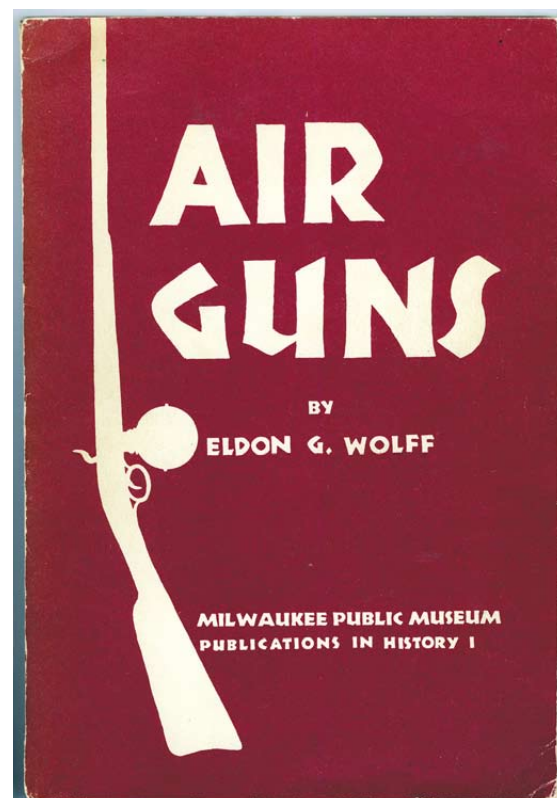


Fig. 15: 'Air Guns' by Eldon G. Wolff, first published 1958. Treatise on the history of airguns from the 15th century to the start of the 20th century, with emphasis on American guns.

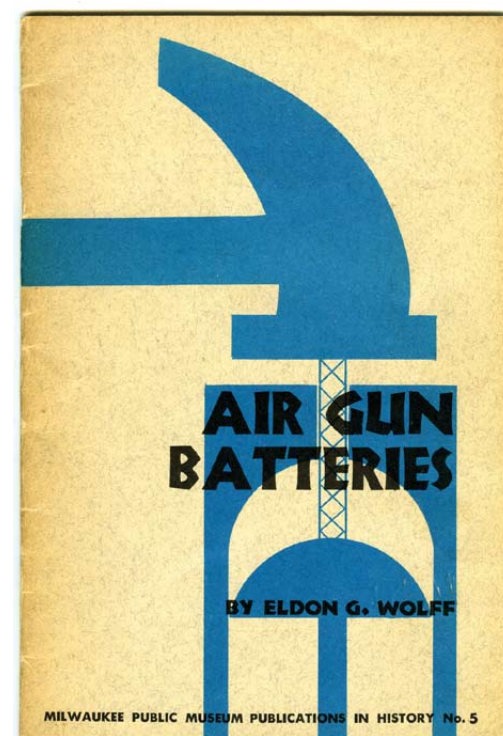


Fig. 16: 'Airgun Batteries' - a 28-page book of 1963 describes with diagrams how various airgun valve release mechanisms work.

illustrations of the Webley Mark 3 and BSA Airsporter air rifles in saltire, along with a Webley Mark I air pistol for the dust cover (Figure 10) of this first edition of L. Wesley's book of 1955, with 16-pages of half-tone illustrations. Lower centre of Figure 11 shows that the first 1955 edition of *Air Guns & Air Pistols* has 'Cassell' on the spine reversed out of the black cover. Next to it is a second edition of 1957 - distinguished by the publisher's name in pale blue in a white panel at the foot of the spine. This was the first book on airguns from the UK viewpoint, with original data on the British vintage airguns, and models available in

the 1950s. Although mainly superseded by Smith's later book, it is still interesting and useful. It started many on collecting, including myself, and is a must for the enthusiast collector. Later the book was updated by Gerald Cardew and these copies are also well worth seeking.

It's better to have a book inscribed - rather than just being signed (like many of the L. Wesley copies) and the more writing in a book by the author, the better. The best and most valuable book is the dedication copy (usually only one of these) but the next best is the association copy i.e. books inscribed by the author to someone important or notable to the author

- relative, friend, mentor, or another writer in the same field. In this article I am showing two of these rare copies inscribed to Leslie Wesley - one from Hoff and one from Wolff. Both of which my friend Les. kindly sent me in the post, years ago when having a clear out! Then you

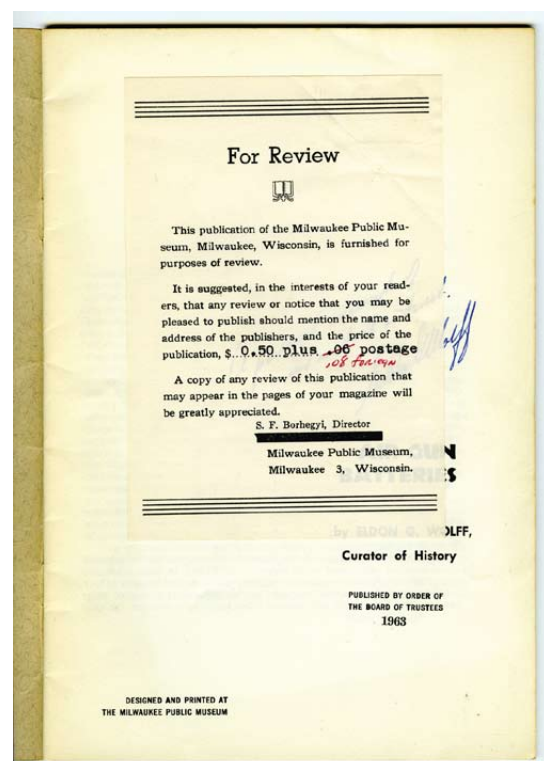


Fig. 17: This Review Copy of 'Airgun Batteries' is distinguished by the label over the author's inscription.

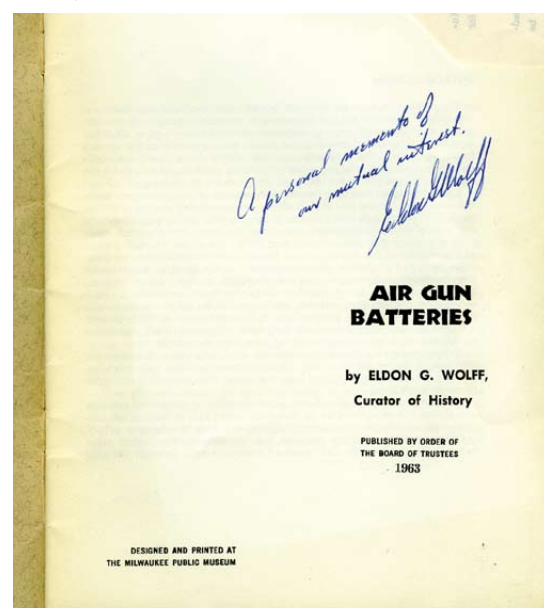


Fig. 18: Lift the label, and the small book is inscribed to Leslie Wesley as a personal memento of their mutual interest by author Eldon G. Wolff.

get presentation copies - books inscribed by writers to someone not necessarily important to them or unknown. Fourth, are the ones just signed like Leslie's books, with no further inscription or writing.

1955 *Luftbosser Fra 1600-Årene*, by Arne Hoff, Dr. phil. Figure 12 shows a unique Arne Hoff's 'Luftbosser Fra 1600-Årene', Stockholm 1955 that is inscribed to: 'Mr. L. Wesley author of 'Air Guns and Air Pistols' with the compl. of the author.' I can't read much of it but there is an English Summary at the end of the 56 pages. Some of the photographs of antique airguns also appear in his much later book *Airguns & Other Pneumatic Arms*. Arne Hoff (1st October 1907 - 16 Dec 1997) was born in Copenhagen and lived there. He joined the staff of the Royal Danish Arsenal Museum in 1934 and was the first serious researcher of Dutch firearms of the 16th and 17th centuries. He was also a reserve lieutenant in the Danish Artillery.

1956 *Gun Fun and Hints*, by Andrew George Elliot and includes some pioneering thoughts on air rifle calibres for rook shooting. It's an abnormal book. I use the word 'abnormal' because this is the word used to describe both the book and drawings on the front flap of the tatty old dust wrapper! Additionally, the design of the book is abnormal! I initially read the title (see Figure 13) as 'Gun And Hints Fun' - which confused me from the start! I realised the real title was actually: 'Gun Fun and Hints' and it was written in two days by the author, Andrew George Elliot during the aftermath of 'flu. and published by the famous Elliot Right Way Books, Kingswood, Surrey in 1956.

Mr. Elliot amusingly explains in his introduction that the tale was not difficult to tell and, as he had the author's top qualification, viz. being a publisher, it was even easier to get it published - however risky! He was clearly a superb shot, practicing his air rifle shooting by driving nails into trees at 25 yards and had such good eyesight in his 20s, that when firing a shot gun on a high pheasant, for example, on bright days he could always see where the pattern went by the sun's glint on the pellets.

1957 *Gas, Air & Spring Guns of the World*, by W.H.B. Smith. This profusely illustrated book (Figure 14) covers history of airguns and vintage period up to the 1950s and is a key reference book written in a very readable style throughout. First published in 1957, the original copies are now difficult-to-find hard-back with a black and spot colour green, well-illustrated dust wrapper showing a family group shooting, air-gun velocity testers at work, an Austrian sharp-shooter with his Girardoni and gunsmiths working on spindles in the trade. An essential book for anyone interested in 20th century air guns, which does not date, is still available and selling well today as *Smith's Standard Encyclopedia of Gas, Air, & Spring Guns of the World*. It includes a series of old photographs lifted straight out of *Fry's Magazine* May, 1906 from an interesting 5-page article: 'The Air-Gun as a Serious Weapon' by H. Marks (Secretary of the Society of Miniature Rifle Clubs) covering the BSA, Britannia and 'Pulvermann' air rifles and various air rifle targets, which is also referred to in Eldon G. Wolff's *Air Guns*.

A slightly confusing title because when I bought it, on the recommendations of Alan Hamer, I thought it would contain actual spring guns firing the ammo by spring power alone, from the simplest bent wire gun firing a wooden bobbin with surprising force that cost 3d (1p) in the 50s when I was a boy. Actually the title meant 'spring piston' guns as opposed to pneumatics, of course. The true spring guns of a higher order than toys I'd hoped to find were not included in Mr. Walter Harold Bingham-Black Smith's book - but pretty well everything else



Fig. 19: Back: 'The American B.B. Gun A Collector's Guide' 1971 by Arni T. Dunathan. Front: 'It's A Daisy' (1976) by Cass S. Hough.

was. OK, so the book layout could be better as some have commented but it's all too easy to criticise someone else's book and think of ways it could have been improved when looking at it in retrospect. 'Don't knock it until you've tried it' - as gun author John Walter once mentioned to me in a letter. Good advice to those who complain about books and think magazines are 'comics' without ever having at least had a go at producing or writing one...or even contributing. Have a go - like the rest of us, here!

1958 *Air Guns*, by Eldon G. Wolff. Treatise of the history of airguns from the 15th century to the start of the 20th century, with emphasis on American guns. The cover is shown as Figure 15 of this very useful book with copious references and many original illustrations for antique and vintage collectors.

1963 *Airgun Batteries*, by Eldon G. Wolff is a small 28-page book that describes with clear diagrams like that on the cover (see Figure 16) how various airgun valve release mechanisms work. The label you can see as Figure 17 distinguishes this Review Copy. Lift the label and this unique copy of the book is inscribed to Leslie Wesley as a personal

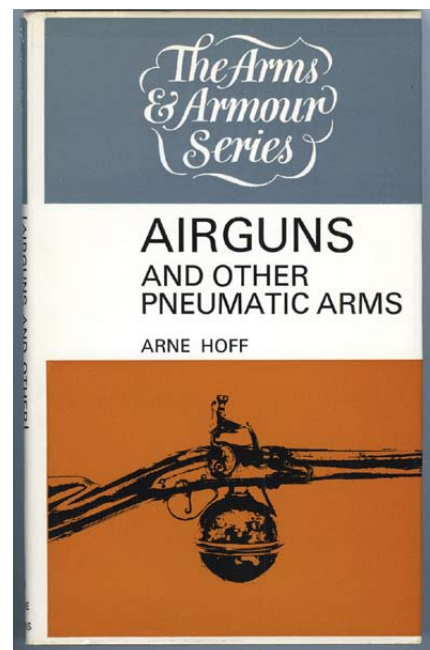


Fig. 20: 'Airguns & Other Pneumatic Arms' by Arne Hoff, D.Phil.

memento of their mutual interest by author Eldon G. Wolff, as can be made out in Figure 18.

1963 *Guns Told in Pictures*, by Warren Moore. (Not illustrated here). The title put me off rather, but the full title 'Guns The Development of Firearms, Air Guns and Cartridges' sounds a lot better for some reason. Contains eight excellent chapters on the evolution of air guns: Blow Guns, Bellows, Pneumatics, Spring Crank, Spring, First Gas (CO2) Modern and Various Types of Air Guns, all well-illustrated with examples. There are a few errors that time has uncovered since it was published but this is an excellent read and a great introduction for anyone starting out on the hobby of collecting.

The productive '70s

1971 *The American B.B Gun, A Collector's Guide*, by Arni T. Dunathan.

The first historical guide to American B.B guns, with stories of the men who made them and the boys who bought them. Covers the history and workings of Daisy, Markham and a host of other B.B gun makers. Editions from different publishing companies can be seen at the back of Figure 19.

1972 *Airguns & Other Pneumatic Arms*, by Arne Hoff, Dr. phil. The front cover is shown as Figure 20 of this very detailed and deeply researched history of antique air guns with excellent mono illustrations from museum specimens primarily, from a bellows gun of 1632 to a Giffard of 1885. The essential reference book for ball-reservoir and butt-reservoir airguns in particular for the enthusiast of antique airguns with early history of makers and literature references quoted.

Publishing Ltd. in 1972 includes 12 pages about air rifle shooting, gun care, pellets and techniques. As a leading target air rifle at that time, a good line drawing of the Webley Mark III Supertarget appears on the cover (lower) Figure 21.

1976 *It's A Daisy!*, by Cass S. Hough, a member of the family that developed the world's most famous B.B gun, who spent half a century at Daisy with thirteen years as president. His 335-page paper back book tells an extraordinary story as he lived it, to fascinate anyone with even a remote interest in B.B guns or the American free enterprise system and its traditional emphasis on personal initiative, effort and perseverance under difficulty. The front cover (seen front of Figure 19) reproduces a rare Daisy poster c.1895, and was one of Daisy's first promotional efforts.

1976 *The Air Gun from Trigger to Muzzle*, by G. V. Cardew, G.M. Cardew and E. R. Elsom was the culmination of five years work and concerns solely the internal ballistics of spring powered airguns and gave a far better understanding of the processes that go on inside an air rifle when the trigger is pressed. As always with technical matters, other technically minded people did not always agree with this pioneering book's findings; among them Dennis Commins and some BSA experts at the time.

The popularity of this

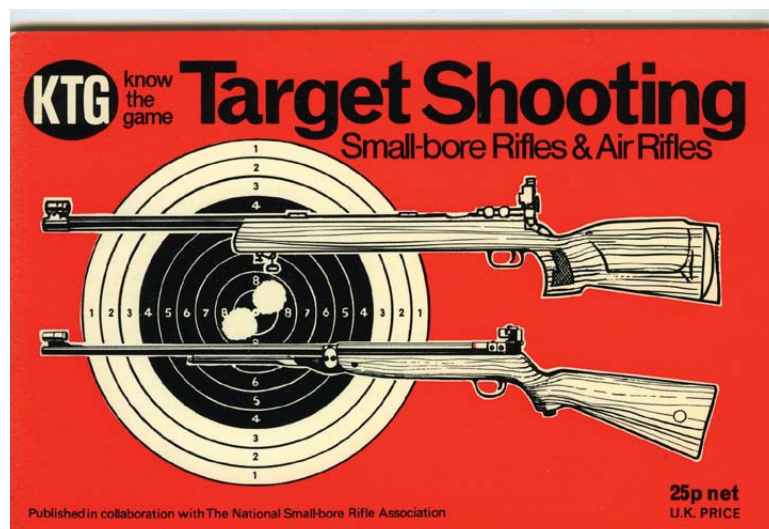


Fig. 21: The 'KTG Target Shooting' publication in collaboration with the National Small-bore Rifle Assoc. published by EP Publishing Ltd. in 1972.

1972 *KTG Target Shooting* publication in collaboration with the National Small-bore Rifle Assoc. published by EP



Fig. 22: Gerald Cardew books and products.

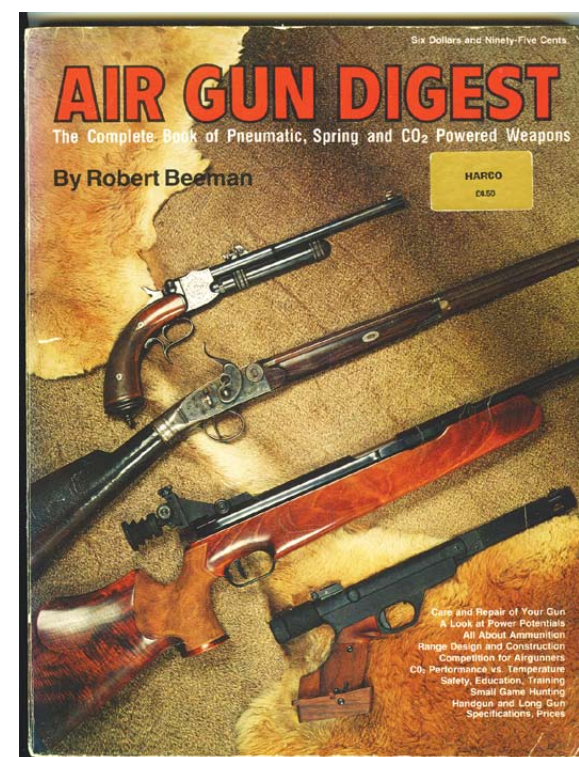


Fig. 23: 'Air Gun Digest' (1977) by Robert Beeman led to later editions 2 & 3 by J. I. Galan in spring 1988 and 1995.

96-page book lead to a further book: 'The Airgun from Trigger to Target' in 1995 tackling more complete workings of an airgun, plus external ballistics in 235-pages. Also in my photograph Figure 22 are a Cardew Ballistic Pendulum and a Cardew Chinese mechanical re-setting target given a non-traditional paint job in 'electric blue' and other garish colours by my friend, Arthur Pickford!

1977 *Air Gun Digest*, by Robert Beeman. This large soft back book printed in typical Digest style at the time, was all embracing covering history, modern airguns, care and repair, etc. in American style with brief script but many photos of fine guns from the Beeman collection as the splendid cover photograph reproduced as Figure 23. It contains a vast amount of essential information and led to excellent later editions 2 & 3 by J. I. Galan in Spring 1988 and 1995.

1978 *Air Rifles*, by D. E. Hiller. The first edition (lower Figure 24) and the subsequent enlarged editions to the series with: 'A Collector's Guide to...' added above the 'Air Rifles' heading, contained

valuations, exploded diagrams and details of airguns old and modern, stimulated more interest in the airgun collecting hobby. So well known, they hardly need my comments but they are essentials for your library and I refer to my copies all the time, mainly to see if Dennis' thoughts on various models match my own and they usually do.

1979 *Air Pistols*, by D. E. Hiller. The first edition arrived in 1979 as a companion to the *Air Rifle* book and was an immediate success with collectors, antique shop owners and all with an interest. Shown at the foot of Figure 25 Dennis's indispensable book soon enlarged to a second edition and more with the name

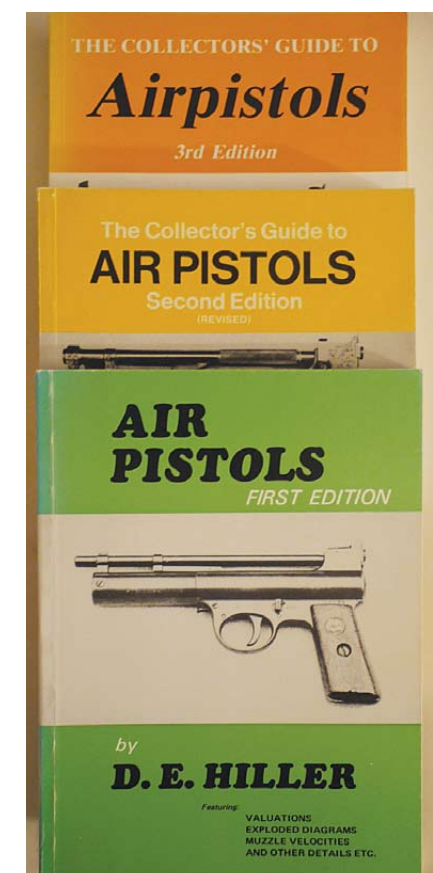


Fig. 25: Dennis's indispensable 'The Collector's Guide to Air Pistols'.

change to *The Collector's Guide to Air Pistols*. The time consuming muzzle velocity testing was discontinued after the first editions as the author felt they were of very little value. Obviously, the stated values have increased over the years but they still give a comparative valuation indicating rarity against other guns in the same editions.

If I'd had access in the early days of my collecting to all the excellent airgun books and magazines now available to collectors and other enthusiasts, I would have been able to learn much more quickly than having to find out about my new hobby from just personal experience and hearsay. With the right books, you can become knowledgeable (if not expert) from the comfort of your armchair instead of travelling around all over the place hoping to learn more, as I did.

Text and photographs © John Atkins and the original owners and publishers. Additional photographs by John Milewski and Lee Robinson.

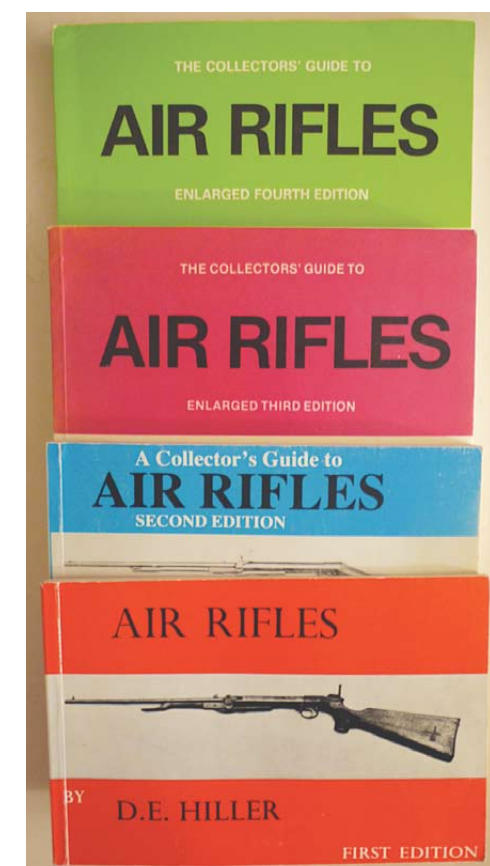


Fig. 24: Dennis Hiller's 'Air Rifles' guides; the first edition appeared in 1978.

Wraparound powerplant

In the second half of his examination of concentric spring air pistols, in which the barrel lies within the spring piston, **John Griffiths** follows his review of British pistols by turning to the range of foreign-made pistols, and finds an impressive variety – including one with a revolutionary oval cylinder.

THE TELL 2

The Tell 2 air pistol (Fig. 1) was developed by Wilhelm Foss, who worked for the famous Oscar Will company Venuswaffenwerk of Zella Mehlis, Germany. Although the pistol appeared on the market almost at the same time as the concentric Highest Possible, there is no doubt that the concentric barrel concept on which this pistol was based was inspired by Edwin Anson's patent. Anson's patent was applied for in 1921 and was available for all to read in 1922, whereas Wilhelm Foss's patent for the Tell 2 was not applied for until 1925. Furthermore, Foss

only patented his innovative cocking and latching mechanism and made no attempt to patent the concentric feature or the hinged grip cocking mechanism of the Highest Possible. The Tell 2 borrows heavily from the design of the Highest Possible, and its most noteworthy new features relate to the positive breech closure lock and the easy access bayonet-type cylinder end cap.

The construction of the pistol, shown in section in Fig. 2, was also simplified to render it economical to manufacture and so be readily adaptable to mass production. The result was an extremely compact

pistol (only 5" long, and in fact the second smallest ever produced commercially), which was easy to cock and yet developed a power similar to that of any push-barrel pistol of the time. A Frank Clarke catalogue for 1933 prices the Tell 2 at 12 shillings and

sixpence (about £37 at today's prices), compared to 8 shillings and sixpence (£25) for the Britannia push-barrel pistol. The 50% higher price would have been well worth paying for a pistol of equal power to a push-barrel but which had none of its cocking and firing quirks, and which would fit easily into the average pocket. Not surprisingly the Tell 2 was a great success and was on the market for about 16 years, from 1924 to about 1940, when the War prematurely brought a permanent end to its production. The pistol was also available blued or, for a small premium, nickelled (an example is shown in Fig.3). The former had chequered walnut grips and the latter chequered black vulcanite grips. For a very short period the blued pistol was also advertised as available with red, yellow or blue varnished wooden grips, but these are extremely rare and I have yet to come across a recorded example of one of these. Although the Tell 2 was advertised as available with smooth bore or rifled barrels, you are much more likely to come across the smooth bore version.

The Tell 2 is a rugged pistol and considerable numbers survive today.



Fig. 1. The most commonly encountered version of the Tell 2.

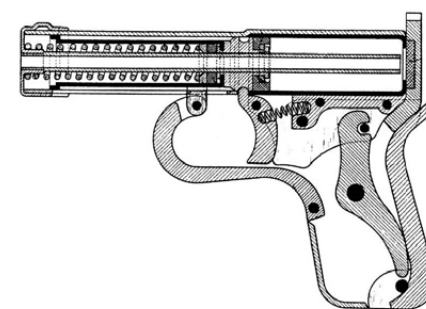


Fig. 2. Cross-sectional drawing from German patent 471956 (1926).

Any budding air pistol collector would have no difficult sourcing one of these, although prices have been rising significantly in recent years. Examples appear to be easier to find in the UK than in the US, where presumably smaller numbers were imported, and consequently examples can fetch disproportionately high prices in the States.

THE EXCELLENT MOD 1950

Around the same time that the Abas Major and Acvoke pistols were being developed, the company Carl Gustafs Stads Gevärsfäbri in Eskilstuna, Sweden had similar plans for a concentric pistol of their own, and manufacture commenced in 1946. The pistol (Fig. 4) was distributed by



Fig. 4. The Swedish Excellent Model 1950.



Fig. 3. Rare nickelled version of the Tell 2.

the Excellent Company (Excellent Geväret AB) of Stockholm, and consequently was named "The Excellent". It was not until 1950 that the model was renamed "The Excellent Model 1950".

No patent has yet been located for the design, although according to stampings on the gun it was patented. Unlike any of the preceding concentric pistol designs, the Excellent used an overlever cocking system, the lever lying along the top of the cylinder and carrying both the front and rear sights. On releasing and lifting the lever a hinged breech plate swung down, allowing access to the barrel for inserting the pellet, as shown in Fig. 5. The Excellent was



Fig. 5. Showing the overlever disengaged and the hinged breech plate opened for loading.

an attractive looking gun, of solid steel construction, blued, and with a one-piece press-chequered wooden grip. The barrel was rifled and pistols were only available in .177 calibre. The pistol was of a similar size and weight to the Abas Major and Acvoke but had a lighter spring and was easier to cock. Naturally power was somewhat lower.

Over its manufacturing period of 1946 to c. 1961 the design and cosmetic appearance of the pistol remained unchanged, but as noted the name was changed in 1950. It is known that some 4,800 guns were made in the 1950-1958 period, and

serial numbers approaching the 7000s are known. Because the gun was not made in large numbers and was never exported, it is not only rare in Sweden but extremely rare in the UK. Three versions of its box are known.

THE HY-SCORE FAMILY OF PISTOLS

The Hy-Score Arms Company was a subsidiary of the S.E. Laszlo House of Imports, located in Tillery Street, Brooklyn, New York, that was established by Steven E. Laszlo in 1933. As we have found with several other gun companies in the post-war period, a decision was taken to manufacture the company's own



Fig. 6. The cocking principle of the Hy-Score system.

individualistic air pistol in the early 1940s. It was the brother Andrew Lawrence (né Andrew Laszlo) who worked on the project and came up with an exceptional design. Much thought and ingenuity went into the design and his noted Stanford research paper describes in detail how the pistol came to be developed. Firstly he adopted the Anson concentric principle in order to keep the pistol compact. The cocking system eventually chosen was a grip-cocking design similar to that found in the Webley Whiting air pistol patent and previously commercialised in the Haenel 28 air pistol, where the cylinder and its integral sear are used as a cocking

port with its shutter-like seal. The gun had many other clever structural features which ensured good manufacturing economics without sacrificing power, accuracy and reliability. The first version of the gun came into production in 1946, appearing on the market in 1947. Previously, protective patents had been filed in the US in 1946, and in Britain in 1947. The first model on the market was the single shot Hy-Score 700 (the "7" indicating that it was introduced in 1947) (Fig. 7), and this was followed by a slightly modified version, the Model 800 (Fig. 8) in the following year, which was to be the standard design from then on. In 1950 the company

introduced the Model 802 (Fig. 9), a repeater version of the 800, and for this Andrew Laszlo invented a most unusual and ingenious 6-shot magazine system that was suitable for diabolo pellets. Various minor modifications of the 800 and 802 were introduced, mostly relating to the overall finish, grip colours, and whether or not the barrels were rifled or smoothbore, but a more dramatic change occurred in the case of the Models 803 (Fig. 10) and 804 which were short barrel versions of the 800 and 802 respectively. These were introduced in 1952-53. Interestingly, the 803 has a readily removable barrel,



Fig. 8. The Hy-Score 800.

providing the owner with a choice of caliber. There is also a very rare Hy-Score 805, which is identical to the 803 except that the barrel is pinned and cannot be removed. There is little documentation of the 805, but its existence was confirmed by the appearance of a box with this designation on the lid (thanks are due to Trevor Adams for this observation).

The Hy-Score pistols enjoyed a long production run but were eventually discontinued in 1970, apparently because of increased safety legislation in the USA and the need to have safety catches on all air pistols. It was not deemed in the company's interest to invest time and money in modifying the design to meet this requirement.



Fig. 7. An "onyx" grip version of the Hy-Score 700.

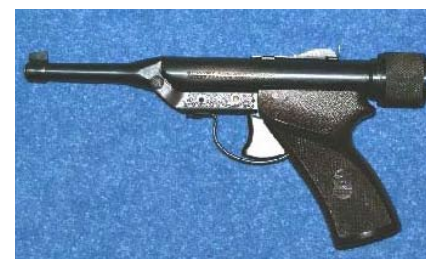


Fig. 9. The Hy-Score 802 repeater.

The first model, the Hy-Score 700, is the rarest and only about 2500 were made. The concentric barrel only runs for the length of the cylinder, and the externally visible barrel is actually a hollow tube which is presumably there for cosmetic reasons, or possibly to provide a longer sight base. In the 800 series the true barrel runs for the whole length of the gun. Externally the 700



Fig. 10. The Hy-Score 803.

model can be distinguished from the later 800 series by the abrupt step where the false barrel begins, in contrast to the smoothly sloped step in the 800 series, and the fact that the rear sight is secured to the cylinder by a screw rather than an inlet dovetail. Like early examples of the 800 series, the 700 model had a plain frame, with later 800 models (from about 1952) having a floral pattern impressed onto the frame above the trigger area.

All the Hy-Score pistols, although mass produced, were very well made, of largely drawn steel/pressed steel construction, with a solid "Tenite" plastic grip. The

standard models had a brown grip, but there were various other colour options, notably simulated walnut, petrified wood, onyx and ivory. Other options were a chrome-plated finish rather than blued, and barrels could be smoothbore BB (0.175), or 0.177 rifled and 0.22 rifled (6 groove).

The pistols are remarkably powerful for their size and their ease of cocking, and are probably the most efficient spring air pistols ever produced. There were a few drawbacks to the design: for example the iris loading system could sometimes be temperamental with wear. A safety weakness was that if the sear became worn the gun could prematurely discharge when snapping the gun shut after cocking. Nevertheless these problems were easily rectified and well looked after guns could last a lifetime, as testified by the ready availability of fully functional examples on the current US vintage airgun market. Surprisingly, .22 guns are much more common than the .177 version, which possibly reflects American preferences, and is the opposite of the UK situation.

Good examples of the Hy-Score pistols are significantly harder to find in the UK. The "snub-nose" Hy-Scores are significantly rarer than the long barrel versions, and the repeating model 804 is scarcer than the single shot model 803. One is most likely to locate these shorter guns in the US as it seems that very few, if any, were exported. Chrome

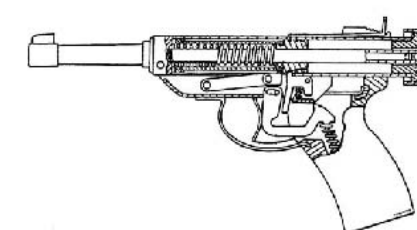


Fig. 11. Cross-sectional drawing of the Hy-Score system.

finished Hy-Scores are very rarely encountered and any Hy-Score with a stock other than the usual brown will command a premium.

THE STELLA 551

The Stella 551 (Fig. 12) was yet another concentric pistol that appeared in the golden era of the 1940's, this time originating in Czechoslovakia. It is perhaps the quirkiest of all the concentrics and was the brainchild of the engineer L.V. Kapsa about whom we know very little. The rather complicated principles of the design are embodied in his US patent 2,567,643 (patented 1951, applied for 1945). The actual manufacturer of the pistol is assumed to be Kovo AS of Prague, as they produced air guns of the period with the Stella trademark. The pistol appeared on the market in 1947 and was made into the 1950s, but as the guns had no serial



Fig. 12. The Stella 551 air pistol.

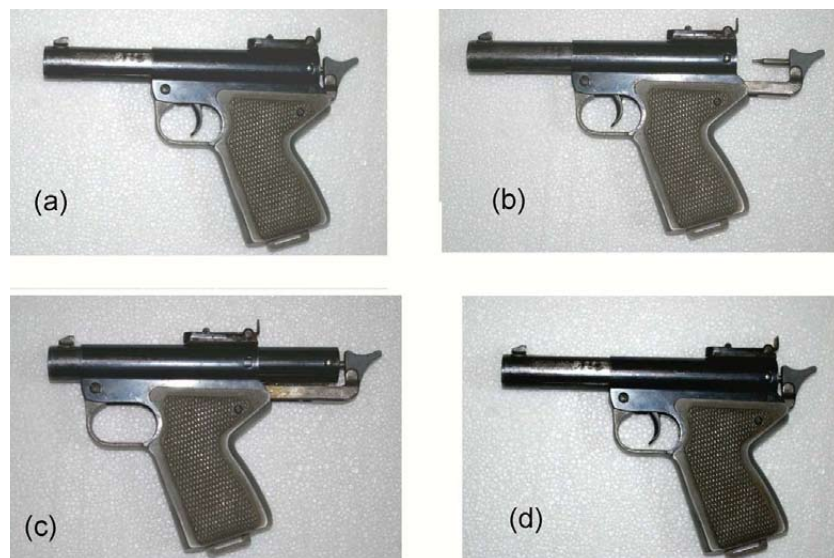


Fig. 13. The cocking sequence of the Stella 551.

number it is not possible to estimate how many were made. Sufficient to say that it is an extremely rare pistol and is unlikely to be encountered in the UK. Collectors will have to look to the Czech Republic or Germany for any hope of locating one of these.

The cocking principles of the design can be seen from Fig. 13. The pistol has a sliding tube housing which accommodates the barrel, cylinder and piston, and which can slide within a fixed outer housing that forms the frame and grip of the gun. Fig 13(a) shows the pistol in the uncocked state and to start the cocking cycle the trigger is pulled, which causes a spring loaded pellet seating plunger to fly backwards, as shown in Fig. 13(b). The pellet can then be inserted into the exposed barrel, and the muzzle of the gun is then pressed against a hard surface to push the piston back against the pressure of the main spring until it engages with the sear. This stage is the same as cocking a push-barrel pistol. The pushing back of the housing also causes the fixed pellet plunger to push the pellet further into the barrel and to make an air tight seal with the barrel, as in Fig. 13(c). The barrel housing and pellet

plunger, now locked together, are slid back to their original position to give the pistol fully cocked and ready to fire as in Fig 13(d).

There are several complicated features of the cocking principles that had to be addressed and it is a tribute to the ingenuity of Kapsa that these could be overcome in a simple manner that not only enabled the gun be produced economically but also to perform very reliably. The pistol is not intended to be a serious target weapon and is more or less on a par with the Thunderbolt Junior for size, power and accuracy,



Fig. 14. The Eusta LP210.

although it is noticeably heavier, thanks to the solid alloy grip. The combined grip and trigger guard is of die cast alloy, and other external parts are blued steel. The 0.177 steel barrel is smoothbore. For such an intricate design, and for such a smart looking, hefty pistol it is something of a let down when you have to look for a hard surface to cock it like a common or garden Gat.

THE EUSTA LP100 AND LP210

The 1940s golden age of the concentric air pistol slowly faded away, and by the mid 1960s the only surviving concentric was the US Hy-Score range of pistols. However, in 1965 a new concentric air pistol came onto the market, this time from West Germany, the first German concentric pistol since the war. This was called simply the "LP100", later to be renamed the "Eusta LP210".

This pistol used the same basic cocking principle as the Swedish Excellent, but the cocking overlever was shaped to form a shroud for the cylinder so that when the action was closed the pistol had the appearance of a sleek, flat

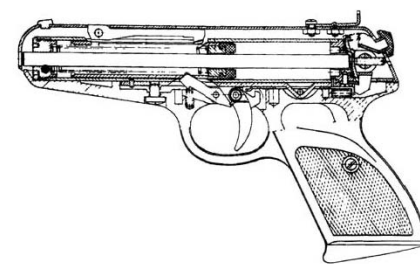


Fig. 15. Patent drawing for the Eusta.

sided automatic pistol. Another difference was that whereas the Excellent had a breech seal plate hinged on the end of the cylinder, the Eusta's overlever shroud carried the breech seal within it, so that cylinder was sealed automatically when the overlever was returned to its original position. Interestingly, at the end of the overlever, where its release button was located, there was a small screw that enabled the pressure of the sealing plate against a rubber O-ring located at the end of the cylinder to be adjusted for wear. The basic patent design is shown in Fig. 15.

The manufacturing details for this pistol are not fully understood, but we do know that it was invented by Walter Ussfeller of Ulm in Germany, and he applied for his patent in 1965, which was granted in 1970. Over the period 1965 -1968, when the pistol was sold as the "LP100", it was most probably made by him, certainly only in relatively small numbers. The pistol was characterised by having a cylinder and overlever shroud made of blued steel, and the main frame was die-cast aluminium or alloy. The gun had brown chequered plastic grips and the rear sight was non-adjustable. In 1968 significant changes took place, and a new patent was taken out listing not only Walter Ussfeller as the inventor but also the company Alpina-Werk of Kaufbeuren, Germany. Manufacturing was undertaken by

that company, and the new version of the pistol was marketed as the "Eusta LP210" (Figs. 15 and 16). Alpina-Werk was principally a manufacturer of typewriters and calculating machines and as it relied on other more familiar gun distributors to market its sole airgun product, the name "Alpina-Werk" never actually appeared on the pistols, pistol boxes or associated literature. In fact the principal distributor was the major gun wholesaler Hans Wrage and Co., of Hamburg, and it was their registered EUSTA trademark that was applied to the pistol. The pistol was also sold by the distributors Eckerhard G. Damaschke of Weickartshain, Germany, presumably under some licensing agreement with the Wrage company.

The material used for the grip frame of the updated model was changed from alloy to black plastic, and the rear sight was made adjustable. Although it looked virtually identical to the model LP100 it was considerably lighter. Both the LP100 and Eusta LP210 were available rifled and in .177 calibre only. The LP210 version was made in larger numbers than the LP100, and was produced over the period 1968- early 1970s.

The LP210 is very



Fig. 16. Cocking the Eusta air pistol.

pleasant to handle and shoot, being relatively light and easy to cock with very acceptable power for its size. The quality of materials used in its manufacture is not great however, and with heavy use, problems of wear and tear soon appear. Although of relatively recent manufacture, this little concentric pistol, in either its LP100 or LP 210 manifestation, is rare and very collectable. The LP100 is much the scarcer of the two. Collectors are most likely to find an example of the LP210 in Germany or the US, as it was never imported into Britain, but even in those countries it is rarely seen.

THE RECORD JUMBO



Fig. 17. The Record Jumbo air pistol.

After the demise of the Eusta air pistol in the early 1970s, no concentric air pistols were being produced anywhere in the world and it was not until 1982 that this hiatus was filled, when a new and unusual model from Germany came onto the market. This was the highly innovative Record Jumbo air pistol (Fig. 17), made by Fritz Barthelmes KG, Sportwaffenfabrik of Heidenheim-Oggenhausen, Germany. The pistol was the invention of the then owner of the company, Martin Barthelmes, and its unique features were:

(a) A revolutionary oval compression chamber that helped maximise the



Fig. 18. The Jumbo's oval air chamber

volume of swept air whilst retaining a narrow profile for the pistol. (The oval piston head can be seen in Fig. 18, where the breech plug has been removed from the end of the cylinder); and (b) An overlever cocking system where the pivot point for the lever is below rather than the usual position level with the cylinder (see Fig. 19). This was the first time a non-circular air cylinder had been used in an air gun of any kind. These features were patented in Germany and the UK in 1982. Fig. 20 shows a cross-sectional drawing of the pistol.

Overall these design features

made for a very compact pistol that was only 18 cm in total length, virtually the same as the Thunderbolt Junior and yet producing far greater power. In relation to size, ease of cocking and power, the overall efficiency of this pistol must be on a par with that of the Hy-Score pistols. The pistol was relatively successful and survived into the mid to late 1990s.

It had certainly been discontinued by the time that the Fritz Barthelmes company, which by then had got into financial difficulties, was taken over by I.W.G. Enser Sportwaffen GmbH in 1997.

There were few variations to the design, and pistols were available with smooth, chequered or, in the de luxe version, oak leaf patterned grips. The Jumbo Target de luxe version was introduced in late 1983 and had an adjustable sight. The gun was also marketed as the "Mauser Jumbo", and had its own distinctive box with this name displayed. The pistol itself is largely of alloy construction with some steel parts,



Fig. 19. The cocking stroke of the Jumbo. Note the positioning of the pivot and linkage below the cylinder.

and has a matt black epoxy finish. The butt is furnished with walnut grip plates and is hollow to provide a storage chamber for pellets. The appendage at the base of the grip is a spring loaded cover for access. The pistol was available in .177 calibre only and had a rifled barrel.

Although it is a relatively recent production model, it is nevertheless

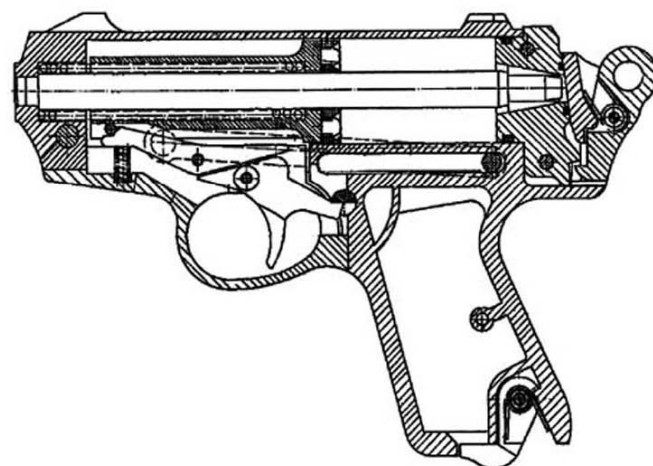


Fig. 20. Patent drawing for the Jumbo.

very collectable, if not for its rarity then at least for its interesting and unusual design features, and after all, we are unlikely to see anything of its kind introduced again.

THE RECORD CHAMPION

Five years after the Record Jumbo came onto the market, Martin Barthelmes introduced his company's most ambitious model – the Record Champion air pistol (Fig. 21). This was only the second time that anyone had attempted to produce a repeating concentric air pistol, and like the Hy-Score 802 it was exceptional in being designed to shoot diabolo pellets rather than the ball shot that was more used in repeating spring air pistols. However, it could only cope with flat-head pellets.

Like the Record Jumbo the pistol used an elliptical cylinder to maximize swept air volume while maintaining a slim-line appearance. Cocking was by a side-lever, reminiscent of that used by the Warrior, although located on the left hand side of the frame rather than the right. The unique 12-shot repeating mechanism employed a spring loaded magazine that was inserted in the base of the grip. The main disadvantage of the design was that it could not be loaded manually as a single shot

gun, and as magazine jams were common and tedious to clear, this could prove extremely frustrating. Possibly this was a major factor that contributed to the demise of the pistol in the late 1990's, along with that of the Jumbo.

The pistol had an alloy frame and cylinder, with a matt black epoxy finish, and only the side lever was blued steel. It was available with plain walnut or plastic grips, or plain wood-finish anatomical grips. The barrel was rifled and available in 0.177 calibre only. Although there appears to be no patent for the gun itself, the auto-feed mechanism was patented by the company (German patent 3505443, applied February 16, 1985; patented June 8, 1989).

As mentioned, the gun itself was not a great success, no doubt because the repeater mechanism was temperamental, and consequently relatively few were made. It is certainly much rarer than the Jumbo, and whilst of no great age, this

pistol is already very collectable and finding a boxed example is quite a challenge. The fact that it is one of only two repeating concentric air pistols ever to be made justifies it finding a place in any representative air pistol collection.

Today sadly there is no concentric air pistol in current production and with present day preferences lying towards single stroke and pre-charged pneumatics, it is doubtful if any manufacturer will ever be prepared to invest the time and finance needed to introduce a new model onto the market. Luckily for us collectors, plenty of the old models remain in circulation, and provided one doesn't thirst for the very rare, building up a small collection of concentric air pistols is not too difficult and will not break the bank.

© John Griffiths



Fig. 21. The Record Champion 12-shot repeater.

Lawrie gets Innovative with CO2

Lawrie Amatruda, renowned in the airgun world for his knowledge of pump-up and CO2-powered guns, describes how he used his ingenuity to convert a Sharp Innova pump-up to bulk fill CO2, in part to prove that it could be done...

After a friendly discussion with a pal about whether an airgun with a blow off valve could or could not be converted to a bulk fill CO2 gun, my view was that it could be done. His was that it couldn't, because, he said, all the gas would be released when firing the gun. I convinced him it could by the fact that the 'Schimel', pistol which was the first American CO2 gun produced, had a blow off valve, so this was my inspiration.

The pictures here will explain how I achieved my goal. The heart of the system is a steel probe soldered to the front of the original Innova valve assembly, and a floating reservoir which allows gas to flow into the firing chamber when the pump arm is opened slightly, and shuts off the flow when the pump arm is closed.

The only changes to the original gun are: (1) I had to make a slightly elongated hole in the original pump tube to accommodate the bulk fill check valve, which moves forward

and backwards when the pump arm is operated – the forward movement is caused by gas pressure in the reservoir when the pump arm is lowered to allow a small amount of gas to be transferred into the firing chamber. The rearward movement is caused by the pump arm being closed, thus stopping the flow of gas.

(2) I had to do away with the pump head and rod; and

(3) shorten the pump arm link to allow fitting of a reasonably long reservoir.

I also had to reduce the volume of gas being transferred into the firing chamber (which by the way was the original Innova compression chamber). This was done by making a delrin sleeve/filler, which is inserted into the firing chamber. The sleeve can be made smaller or larger to adjust the power.



I fitted a piece of split metal tubing into the the main tube to restrict the opening movement of the pump to about two inches; this is all the movement necessary to open the transfer valve and also stops the filling check valve from hammering on to the front edge of the elongated slot in the main tube.

I hope the pictures will explain all of this.



Dasch in Gratz

Famed airgun writer and collector for nearly 40 years, **Larry Hannusch**, tells a tale of good fortune that all collectors will understand – some because it has happened to them, others because they hope it will one day. What first appeared to be a rather ordinary bellows-powered gallery ‘puffer’ in fact turned out to be a beautifully crafted and rare butt-piston gun dating from the middle of the nineteenth century. Its origins remain shrouded in mystery – why an airgun externally modelled on a design that ceased to be used 50 or 100 years earlier came to be made is anyone’s guess.

It’s no secret that I love a good airgun story. And if the story just so happens to actually be true, that makes it all that much more interesting. There are stories of rare pieces that were bought for a song, silhouetted against a special piece that took a wheelbarrow load of trade bait to reel it in. Sometimes rare airguns are stumbled upon in the most unexpected places, and other times it can take many years to finally acquire that highly desired piece that has eluded the collector for decades. And of course, there is

always the violin-serenaded story of an airgun that somehow got away, leaving the storyteller with a lifetime tale of woe. I myself have been on all of these sides at one time or another, so I deeply understand the thrill of victory, and the agony of defeat.

This short tale of an airgun find also had a few plot twists along the way. Some time back, I was contacted by an individual who possibly wanted to sell an old ball reservoir air rifle. The only problem, he said,

was that it was missing the ball reservoir...not an insurmountable problem to my mind, but it was certainly a significant issue. I was promised photos which came from a cell phone camera a few days later. The tiny photos revealed a typical bellows rifle instead. (He later explained that the ball was missing from what was actually the unoccupied rear aperture sight base on the top tang!). Disappointed as I was, I attempted to explain the true nature of the airgun based on the sent photos. I also broke the



Fig. 2. The triggerguard, breech loading system, and bulky buttstock all seem to point to the Dasch airgun as one of the many bellows airgun that are often encountered by collectors.

news to him of its modest value, and that I was not in the market for a bellows gun, but I would look it over in person at the next available opportunity.

When I was handed the air rifle

in person some time later, I was immediately struck by the sheer weight of the piece....much heavier than a typical bellows gun. I stuttered that I now thought I had been wrong about the nature of the

piece originally, and while certainly not a ball reservoir rifle, it sure felt like it was actually a butt piston air rifle instead. I offered to buy it at a 50% higher value than when I had earlier “photo appraised” it and



Fig. 1. At first glance, the Dasch air rifle appears to be a typical bellows airgun.



Fig. 3. The extensive use of brass for decoration and embellishment is typical for this era of air rifle. But the Dasch also displays a high degree of nice engraving on the brass furniture.



Fig. 4. As the barrel release is pushed forward, the breech of the barrel springs upward to expose the .30" brass lined barrel ready for the loading of the dart.

incorrectly assumed that it was a rather common bellows gun. My mood and money changed hands quickly. It was good news for him

and the family, and would turn out to be good news for me if my "hand scales" were indeed accurately calibrated. I sweated airgun darts

stud protruding from the side of the stock, it is certainly well disguised as a bellows airgun. All the furniture

for a while until I could disassemble the gun and verify what I hoped to be the true design of the piece... and this time I had guessed correctly. Chalk one up for the thrill of victory.

The Dasch rifle is a large, heavy gun exhibiting high quality construction. It has an overall length of 43½ inches and weighs 11.75 pounds. With its full length stock, fancy triggerguard, and cocking



Fig. 5. The metal rest along the right side of the wrist allows the shooter to keep his thumb out of the line of sight while shooting. These types of thumb rests are often seen on similar air arms as the bulkiness of the wrist section does not allow enough clearance for proper sighting.



Fig. 6. The large trigger blade seen here is actually the setting trigger. The thin, hairlike firing trigger can just be seen protruding into the upper brass ring of the guard.

and escutcheons are made of brass, and most are nicely engraved.

The browned steel, octagonal barrel is 30 inches in length and is what one would expect to find on a typical bellows gun in that it is tapered and "wasp-waisted". This refers to a design in which the barrel diameter at the breech is relatively large (1.035"), is reduced near the

center to .820", and flares at the muzzle to a final diameter of .930". There are several theories as to the engineering concept behind such a design construction. Some feel that it was an attempt to change the center of gravity of a rifle to facilitate the steadying of the gun for offhand shooting. Others suggest that it was a carryover design from

contemporary firearms barrels in which gunsmiths were experimenting with barrel harmonics to increase accuracy. Perhaps it was simply a matter of following established barrel making practices for this type of indoor target arm.

In any event, the barrel on the Dasch is constructed with a heavy brass liner with

a smoothbore caliber of .30 inch. It is signed on the top barrel flat "Dasch in Gratz" inlaid in silver. A silver barrel band is found at the breech. The rifle is a breech loader which would have used large, tufted darts as projectiles. The latch seen below the action in front of the triggerguard is pushed forward to



Fig. 7. The heavy, cast brass buttplate is nicely engraved, as is the brass escutcheon around the cocking stud.



Fig. 8. The rear sight is nicely constructed with a unique design to adjust the elevation. Note the quality of the original browning on the octagonal barrel.

allow the breech to quickly elevate under spring tension to permit loading. The pivot for the Dasch barrel is the type commonly used on many bellows rifles in that the long wooden forearm serves as a flexing point. It certainly can be a weak point on such guns, as the stock is usually rather thin near the muzzle. In fact, the Dasch forearm shows some old cracks and repairs in this area.

The front sight is fairly small and plain. The open rear sight, however, is quite nicely executed. The windage adjustment is handled by the typical

drifting within the dovetail slot. The elevation adjustment is unique in that the entire blade is movable in a vertical direction and then held in the desired position via a screw anchor. The forward end of this sight base is embellished with a pineapple finial which duplicates the design of the triggerguard finial. There is a base socket for the missing rear peep sight which is a part of the upper brass tang.

The stock on the Dasch is made from a single piece of walnut from the butt to the muzzle which terminates with a horn endcap.

There are two panels of checkering: one on the right side of the wrist, and the other diamond panel located under the forearm. This Dasch would have been only suitable for right-handed shooters because of a steel thumbrest that is present on the right side of the wrist. In addition, the stock features a very pronounced Tyrolean design with a beautiful carved cheekpiece with double-sculpted borders. A steel stud protrudes from the right side of the buttstock which is used to cock the airgun for firing.

The walnut ramrod with its horn



Fig. 9. The maker's name and address is inlaid in silver on the top barrel flat.

cap appears to be original to the piece. It is held in place by two brass thimbles. The 18 inch ramrod found on this rifle is largely cosmetic in function, as the Dasch is a breech loader. Besides, the ramrod just barely reaches halfway down the 30 inch barrel. Directly below the breech of the barrel beneath the stock is the aforementioned barrel release latch..pushing it forward allows the breech of the barrel to tip upwards for loading.

The brass triggerguard is an ornate, finger-specific style often seen on bellows airguns. This design allows for a firm and consistent grip by the shooter. Protected within the domain of the triggerguard are the double set triggers. The rear trigger blade must be pulled first to set the trigger. The tip of the front hair

gunsmith. Many bellows guns encountered today have simple, almost primitive engraving decorations. This would suggest that at least some of the bellows guns' makers were an industry unto themselves, lacking the apprenticeship hierarchy seen in the firearms world. But the Dasch decorations reflect a high degree of skilled execution....we'll come back to that point a bit later.

Now we come to examining one of most intriguing parts of the Dasch... the powerplant found hidden within the carved-out hollow of the buttstock. This spring-piston unit can be easily removed from the gun to reveal the beautifully engineered mechanism that is truly the heart and soul of this airgun. And what a masterpiece it is.

tube is inserted against the breech of the rifle when it is assembled. The brass cylinder houses the spring and piston. Measuring the dimensions of the mechanism reveal a 2.75 inch stroke traveling within a 1.375 inch cylinder bore. The brass headed piston is fitted with a flat leather washer located at the forward end. A double set of volute, flat stock springs are positioned between the head and the steel chassis of the powerplant. Turning the stud clockwise (with a wrench, as the original crank is missing) through a 180° arc compresses the mainspring via a modified chain link system and allows for the sear to catch the piston in anticipation of firing.

Attached to the sear on the powerplant chassis is a long,



Fig. 10. This is the powerplant unit as it is removed from the Dasch air rifle. The long silver flat rod below the brass cylinder is the elongated sear bar.

trigger protrudes into a brass ring at the top of the triggerguard. The shooter inserts his forefinger into this ring to touch off the shot. The gun then discharges by almost seemingly reading the shooter's mind...it certainly has the proverbial hair trigger as I was not able to even measure the release weight!

All of the brass furniture, including the heavy cast buttplate, is nicely engraved. The high quality of the engravings strongly suggests the experienced skill of a master

One of the first things I noticed upon removing the unit was its massive weight. This relatively small unit weighs a full four pounds- and represents over 1/3 of the total weight of the entire gun! This powerplant is essentially a complete spring piston airgun scaled down to be fitted within the confines of a wooden buttstock.

The powerplant unit is comprised of a steel chassis and a brass cylinder with a tubular transfer port at its anterior end. The forward end of this

slender flat rod. This flat bar serves to translocate the sear release function quite a distance forward to interact with the double set trigger mechanism found in the wrist of the rifle. The inherent design of such a set trigger system creates a small striking force which is directed to the front of the elongated sear bar when the powerplant is installed in the gun. This small impact force generated by the set trigger upon the sear bar is enough to release the piston and spring, instantly compressing the air in front of the

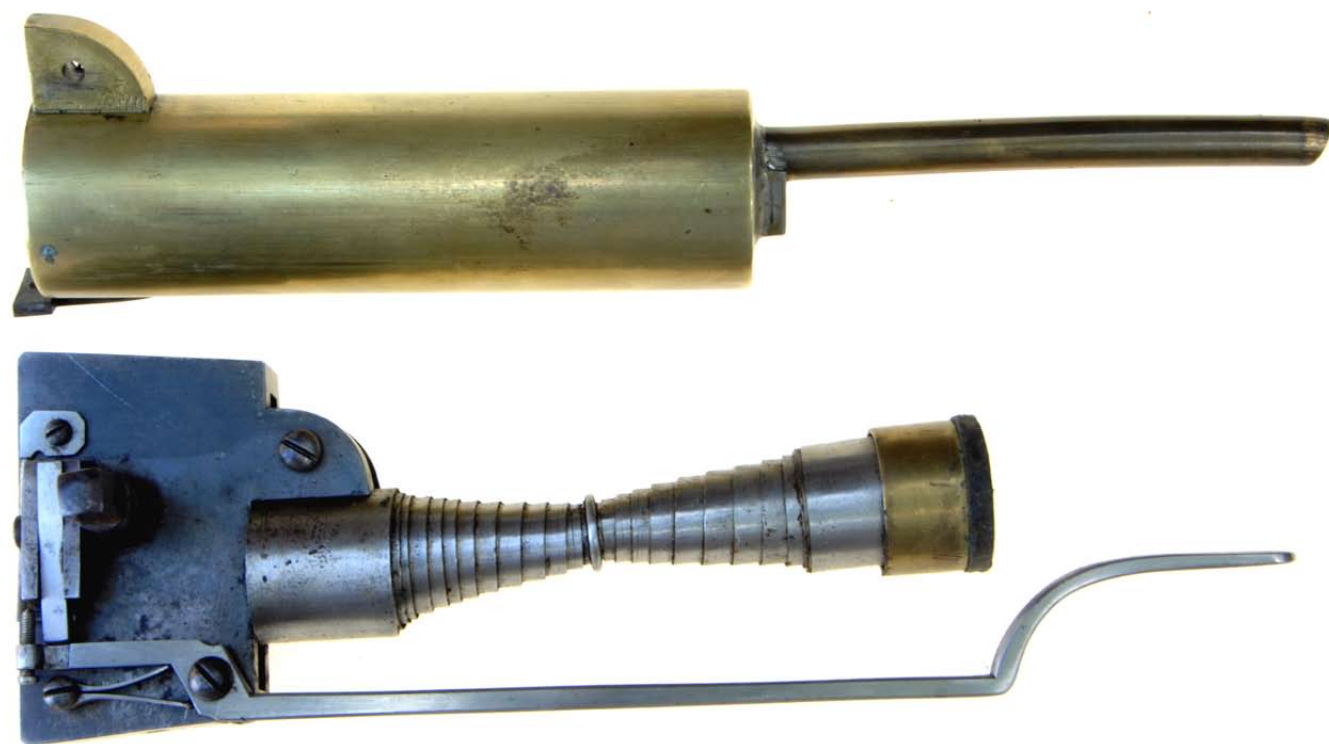


Fig. 11. As the brass cylinder with transfer tube is removed, the double volute springs and leather-headed piston can be seen.

piston head and sending it on its journey down the transfer port tube.

Not surprisingly with its short stroke and long transfer port, the air compression design is rather inefficient and under-powered. Yet the beauty of the design is that it is consistently inefficient with every shot, making for an ideal indoor target airgun. Unfortunately, I do not have any darts larger than .25" darts to use for testing. Please do not report me to the airgun cops, but I dry-fired the Dasch a couple of times to check its function. The firing behavior is snappy and vibration-free. And the fact that the Dasch still functions smoothly after all these years is a testament to its solidity of construction.

So exactly when was this unique air rifle created? Good question. We need to examine the context of the design against other known butt-piston air rifles and Dasch firearms to narrow down the era. One of the stumbling blocks has been that I have not been able to determine Dasch's first name.

Research has revealed a number of very high quality firearms that are simply marked "Dasch in Gratz" (or Graz, which was a later spelling for this Austrian city). So the first thing we know is that Herr Dasch was not some gunsmith hack, but was indeed a very skilled and accomplished gunmaker.

Checking in the Johan Støckel quintessential reference guide, we find two listings: Dasch i Graz c. 1770 and Dasch i Graz c. 1850. Comparing similar butt-piston airguns from other known makers such as Grasel and Johan Peterlongo suggests the 1850 time period is much more likely to be accurate. This itself is a puzzling time frame, as this would date the manufacturing of this genre of airgun well after the bellows airgun era...indeed, almost into the modern era of mass produced airguns! Perhaps we are looking upon some of early forms of the nostalgic replication of airguns-that being bellows airguns dating 50-100 years prior.

As mentioned, there are a

number of Dasch firearm rifles known in museums and private collections. Invariably, these pieces display wonderful aesthetics and craftsmanship. There is even a beautiful pair of percussion pistols signed "Dasch in Gratz". Most of these firearms are dated by the reference captions as circa 1850. However, there is one incredible percussion double rifle signed by Dasch in Graz that was purchased by Austrian Emperor Ferdinand I in 1842. This beautiful creation unequivocally establishes the fact that this was not Dasch's first rodeo in 1842, and certainly strongly implies that he was making firearms (and possibly an airgun?) sometime before 1842. Perhaps this air rifle was made as a special custom offering from Dasch for one of his wealthy firearm customers. I'd venture to surmise that that certain client was not disappointed when he was presented with this fine Dasch air arm.

This Dasch butt piston airgun belongs to a rare class of handmade air rifles dating from the middle of

the 19th century. It took special skills for a gunmaker to produce any pneumatic arm, especially one as superb as this specimen which exhibits such a high degree of craftsmanship.

So why would such an antiquated design be used as the basis for a target air rifle at this relatively late date? Perhaps classic appreciation and nostalgia played vital roles in the decision to create this eye-catching form of airgun, because it surely wasn't the easiest construction avenue.

The course of life for an airgun collector can be full of surprises, disappointments, victories, and

strange plot twists along the way. It is almost impossible to predict when or where the next airgun lead will produce a desirable acquisition. I've been an active part of this rewarding hobby for nearly four decades, but it wasn't until fairly recently that I was finally able to acquire one of these unique butt piston air rifles. And yet, I have a few collector friends who seem to have these types of rare air rifles stacked up like cordwood. That is all part of the mystery and excitement that drives many of us to pursue airgun collecting with a passion. Certainly the thrill of the chase generates the adrenaline that compels us to foolishly race onwards in hopeful anticipation of discoveries yet uncovered.

REFERENCES

Gamber, Otwin, "The Firearms of the Waffensammlung in Vienna", ASCA bulletin #28, 1973

Hoff, Arne, Airguns and Other Pneumatic Arms, 1972

Støckel, Johan, Haandskydevaabens Bedømmelse, 1938

Wolff, Eldon, Airguns, 1958

© Larry Hannusch

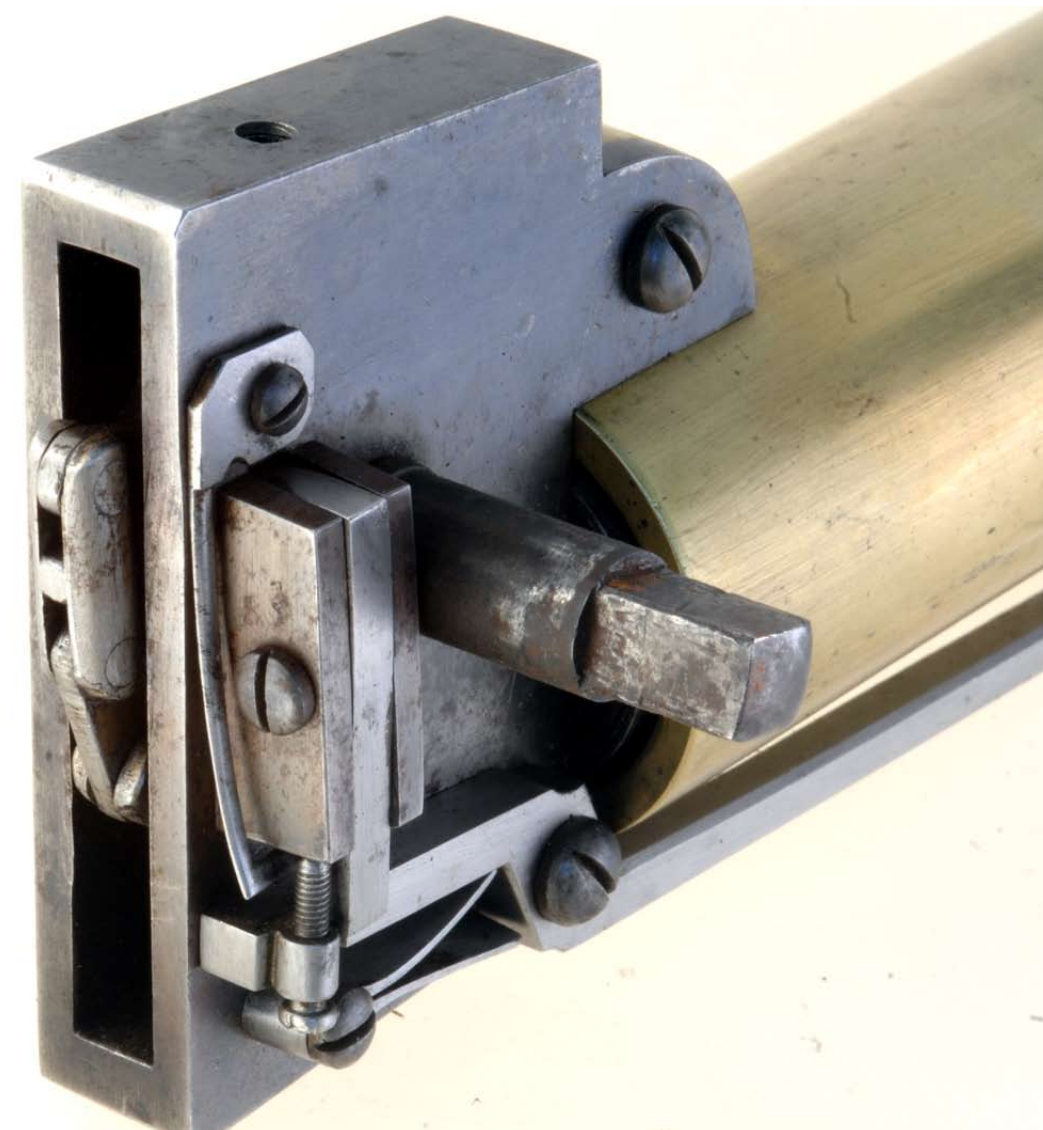


Fig. 12. In this cocked position, the well engineered and finely crafted lock parts can be seen functioning to hold the piston in place ready for firing. Part of the chain link system that pulls the piston rearward upon cocking can be seen at the back of the steel chassis of the unit.

Sleeping beauty

Another tale of good fortune comes from **John Milewski**, who was disappointed when he scored a rare BSA Improved Model D in .25 calibre, but thrilled when, soon afterwards, he found an almost unused Webley Service Mk2.

Most collectors remember the one that got away and can relate numerous stories when the subject comes up for discussion. I believe every collector has the right to a lucky find at least once during their collecting career and will relate such a tale here before taking a closer look at the Webley

Mk II Service and its presentation.

I was once offered a 43 inch BSA Improved Model D in .25 calibre sight unseen and due to its rarity, took the plunge without much hesitation, particularly as the price was a reasonable £300. When I picked the rifle up, I could immediately

see it had been refinished. It had been polished to such an extent that you could almost shave in the reflection – and that was just the stock! The metalwork was a glossy black and the whole rifle looked to be some misguided collector's idea of refinishing an antique to the perceived condition it had left the BSA factory in.

The irony is BSAs were never polished prior to bluing to quite this extent and the finish would have been a blue/black rather than gloss. Sadly the cylinder and cocking lever stampings were tidy enough to indicate none of the original finish had been lost through pitting and the BSA would undoubtedly have been far more desirable in its original state.

The rifle was fitted with a No.12 aperture sight and the backsight looked to never have been fitted, as a blanking plate neatly covered the sight dovetails. My first attempts at grouping with the rifle were unsuccessful and I soon discovered the friction fit aperture sight was loose after undergoing a polish prior to refinishing.

Disappointment Leads to an Opportunity

To cut a long story short, I was disappointed and despite the rifle's rarity, I soon advertised it for a potential swap for a 1st Series Webley Service. Now the Mark II Service is a rifle which has a special place in the heart of

many a collector, including myself. At the time, I already had 2nd and 3rd Series examples but not the somewhat less practical 1st Series and wanted to complete the set. I was first made aware of the Webley Service during the early 1980s and recall reading the story of a "Hunting Hermit" in an early issue of *Airgunner*, in which a .177 Webley Service took centre stage.

This eccentric shooter had made a home for himself in a cabin and tried to be as self-sufficient as possible. The rifle was used to obtain food and with its rotary bolt and military style profile, I aspired to one day own an example myself, as at the time I was never going to be able to afford one. I continued to read



Fig. 2. 1st (top) and 2nd (bottom) Series variants.

Webley Service Mark II.

"A vicious jerk from a spring; a pellet

Air Rifle is an example of its high mark of efficiency. Directly this air rifle is handled there is evidence of the care and thought which has gone into its manufacture.

"The balance, with barrel on air chamber, is that of a good rifle; the butt fits well to the shoulder, and



Fig. 3. The 1st Series Service seriously impressed contemporary reviewers.

about the Service and even at the young age of 18, I felt modern airguns were not for me as I only had an eye for traditional designs.

I'm biased then. Whatever I say about the Service will include an element of awe as the design still impresses me to this day. Before I offer my own views, I will quote from the November 5th 1932 issue of *The Field*, the Country Newspaper. The Webley Service air rifle had only recently been introduced, so let us see what a contemporary reviewer thought of this novel design.

"A High-Performance Air Rifle. The

discharged with uncertainty as to its destination – these were the features of the early air rifle. Evolution has since invested it with scientific precision, and the Webley "Service"

a perfectly fashioned pistol grip gives confidence and allows a delicate touch on the double pull trigger. There remains but accuracy in action, and this was borne out by test... It



Fig. 4. One of the attractions of the Webley Service is there is so much to play with and adjust, such as open and aperture sights, instantly removable barrel and the rotary bolt, which provides that 'Service' look.



Fig. 1. The Webley Service could be dismantled in seconds into a 26 inch long package.



Fig. 5. This boxed Webley Service is the type of rifle dreams are made of.

is no mean achievement that such a test should boast of a two inch group at 40 yards.

"For home practice it is mainly at short distances that the air rifle will be used by the budding marksman, the range shot who wishes to keep his eye in with minor expense in ammunition, or the young member of the O.T.C. [Officer Training Corps] with his 'guns' or a place in the team as an objective... A safety catch is another refinement of this well

designed piece of mechanism..." Abridged version courtesy of Cornell Publications (www.cornellpubs.com)

The unabridged report also pointed out the rifle was supplied with leaf sights and an adjustable aperture sight. The reviewer went on to say the rifle could be had with a .177 or .22 barrel, which detaches and packs with the stock in a 27 1/2 inch long case. This latter facility would no doubt have been a convenient provision for potential poachers! The case in

question was a soft canvas cover, which reduced in length to 26 inches after the 2nd Series rifles were introduced.

Safety First

The intercepting sear on top of the air cylinder was seen as novel when first introduced and

received favourable commentary when reviewed. Most contemporary designs did not carry such features and the risk of damaging rifle or fingers was ever present. The sear was a patented anti -beartrap device intended to prevent the barrel from snapping down, should the trigger be inadvertently released during the cocking process or the sear fail.

It worked by engaging with the top of the piston when the rifle was cocked and the barrel in the raised position. As soon as the barrel was closed in readiness for firing, the intercepting sear was knocked out of engagement by the barrel. Webley pointed out that if the intercepting sear was engaged, it was necessary to re-cock the rifle a fraction in order to engage the main sear before the rifle could be discharged.

The first two Series of Service air rifles also had a manual safety catch fitted in a belt and braces approach to safety. The 2nd edition of the instruction booklet, which accompanied each new rifle, included

the following passage regarding the catch, which subsequent editions of the booklet omitted following its discontinuation.

"Safety Catch

"This is non-automatic. Before firing it is necessary to depress the lever on the side of the rifle until it covers the word "Safe." The safety arrangement enables the rifle to be carried in the cocked position. It should be noted that the safety catch cannot be applied unless the rifle is at full cock."

Discovering a Genuine Sleeper

Anyway, back to the advert I placed for the .25 BSA. One door closes and another opens, so the saying goes, and it was not long before I had a call from someone on the Isle of Wight, offering his Webley Service to me. He did not want to swap it for my .25 BSA, as he was not a shooter and described himself as a pacifist. The rifle had belonged to his father and he claimed only 8 pellets had been fired from it, since it was bought new in 1938. He said he knew this as he had actually counted the pellets in the pre war box of 500 BSA pellets, which had been bought with the rifle and there were 492 left!

He said the rifle was contained in its original box and asked me to make an offer for it. I made an offer of £450, subject to viewing and he agreed to consider it before calling me back (no

internet in those days). I then had a sleepless night wondering about this rifle. Was it as good as he said? Should I have offered more? Is he likely to offer it to someone else and most importantly, will he call again?

The call came the following afternoon. My offer was acceptable and we agreed to meet at Lymington in the New Forest. A quick inspection in the boot of the car revealed a Webley Service box in fine condition. The sides were split but the labels were all clean and readable. Next came the barrel, which had that attractive pre war blue/grey clean unblemished finish, other than a little wear along the keyway, where the barrel fits within its carriage. If the rifle was as clean as this, I was about

but traces of the original congealed factory applied protective grease. The blued finish to the action was as clean as the barrel and the rifle looked as though it had just emerged from a deep sleep in someone's loft, which in fact was exactly where it had spent the last 55 years of its life.

The base of the box contained an Eighth edition of Frank Morton's *Hints on Air Rifle Shooting* for the Webley Mk2 Service air rifle dated 1938, a copy of which was included with every new rifle; a parts diagram within the instructional book dated October 1938; a box of 500 (492!) BSA pellets; and a red Intercepting Sear warning label.

As can be imagined, I had no



Fig. 7 The Webley Service is capable of some very accurate and consistent performance. Its unique lines give the rifle a character all of its very own.

to get the bargain of a lifetime!

The stock and action duly emerged from an old pillow case and at first glance, I could see what looked like deep pits along parts of the finish. With the first pangs of disappointment approaching, I took a closer look. They were not pits at all

hesitation at paying the agreed price and the seller was particularly pleased the set was going to a collector rather than someone who was going to sell it on at a quick profit. After a memorable pint of Eldridge Pope's ale in a New Forest pub to celebrate my good fortune, my better half Jo and I were off home to



Fig.6. The stock is impressed with the retailer's name.



Fig. 8. Note the rail underneath the barrel, which engages within the barrel carriage when in position.

further examine my new purchase.

Retailer Stamp

The rifle was bought new from the AJAX Company by the seller's

Militaria advertised one for sale a year or two ago. Protek Supplies of Bognor Regis had a Gem style airgun for some time with an AJAX mark on the air cylinder and I also once owned an Improved Model Britannia (1911 – 1914) with *The AJAX Co, Ilford*, impressed into both sides of the stock.

Retailers used to stamp their names onto mass produced air rifles as a way of advertising their business and many BSAs in particular can be found with such markings on either the stock, trigger block or the barrel. Such markings are a lot rarer on Webley air rifles, so the AJAX stamp on this Service provides a little more scope for research into the original retailer.

The AJAX Company of Ilford and Romford

So who was this company? The AJAX Company (Ilford) Ltd is described

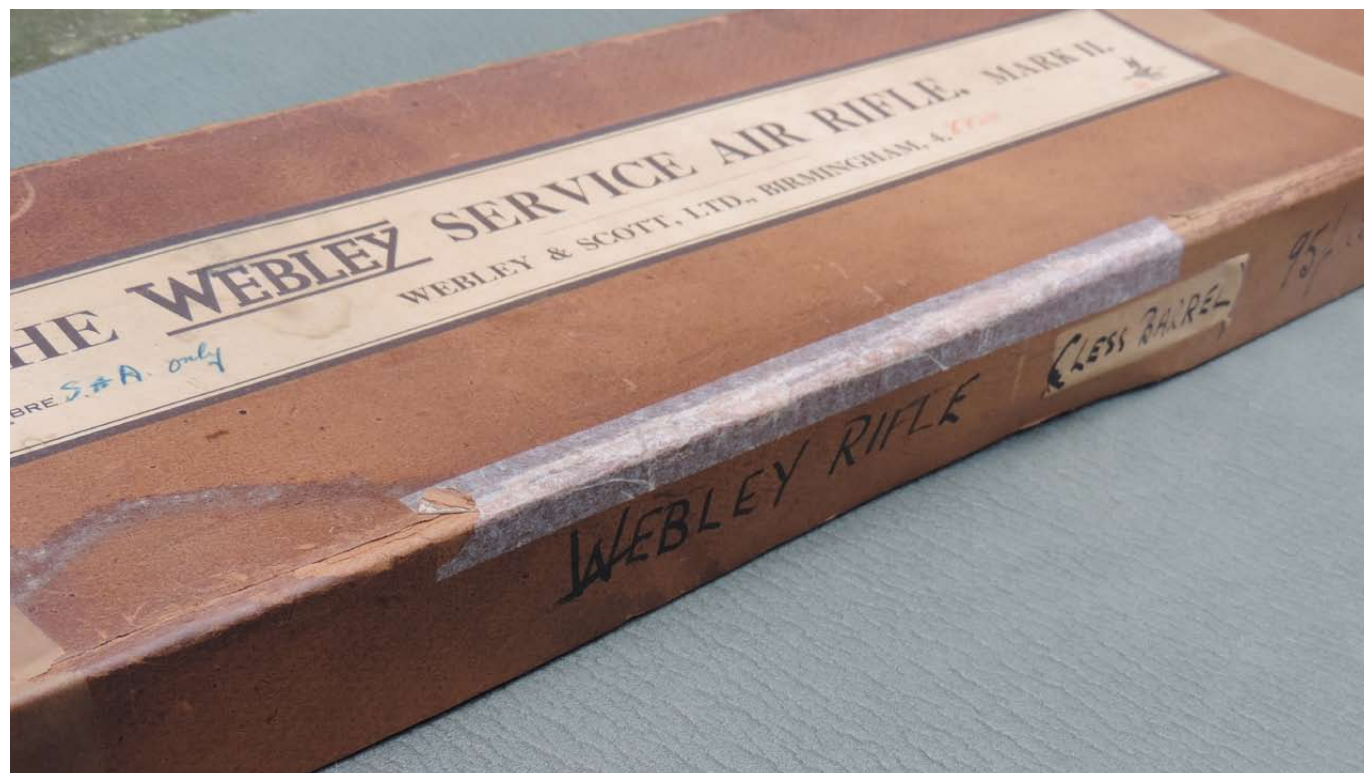


Fig. 9. The very fine condition of the lid label. Note the handwritten S & A Only.



Fig. 10. South Street, Romford during the 1930s. The AJAX Company seems to have been next to Scotch Wool and Hosiery Stores at the bottom right of the photo. (Pic: Romford Library).

in the trade directories as a sports dealer. I am grateful to my friend Alan "Woody" Woodhouse for sharing his recollections of the AJAX Company from his visits during his youth in the 1950s. The Ilford shop was located at 291 High Street with the railway supplying United Dairies just behind the shop.

The shop itself was an immaculate large unit, where you were always called "Sir" by the smartly attired staff. Alan recalls shotguns as well as air rifles being for sale, alongside other general sports equipment and he spent many a day longingly staring at racks of guns he could not afford at the time.

The Ilford premises came first, as the markings on the Improved Britannia made no mention of Romford. The Romford branch does not appear in the 1922 edition of Kelly's directory of Essex but is listed in the 1926 issue, where the trading address is listed as 61a South Street, Romford. The company is also listed

in the 1938 telephone directory for Romford but not in the 1957 edition, which was the next available directory the Romford library had amongst their local records.

end side of the box lid, written in crayon is the incorrect serial number of 8826 along with S & A Only. The latter markings also appear on the label attached to the lid of the box, where the calibre would usually be

Disassembled

The Webley Mk2 Service air rifle was supplied disassembled at the point of sale. The neat box was about the size of a shotgun box and contained the barrel separate from the stock and action. A card partition kept the barrel away from the body of the rifle and prevented undue damage in transit/storage. On the left



Fig. 11. This box of 500 .177 BSA pellets was also marked with the AJAX Company's logo and original price.

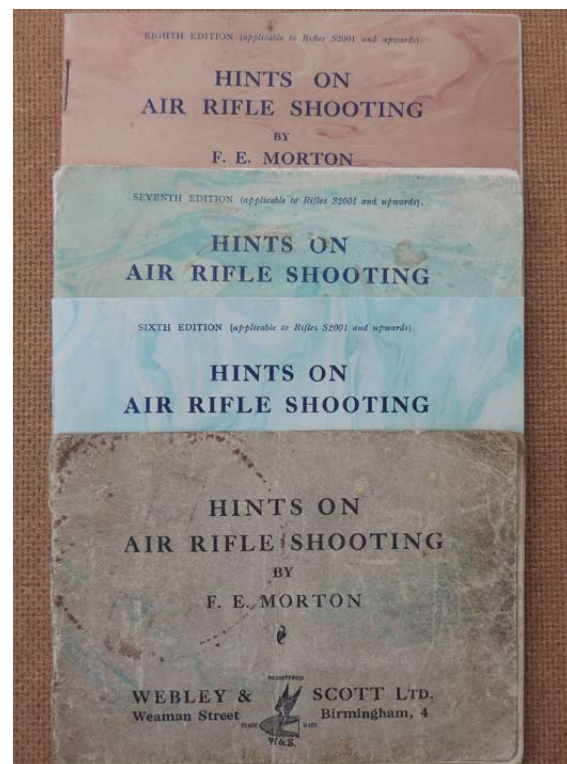


Fig. 12. *Hints on Air Rifle Shooting* was published in at least nine editions. Here is a selection.

crayoned in. WEBLEY RIFLE (LESS BARREL) 95/ COMPLETE is hand written on the lower side of the lid.

S & A Only may mean Stock & Action Only, denoting that 8826 was originally intended to be sold without a barrel for some undetermined reason. The original owner presumably wanted a rifle and barrel with matching serial numbers, so rifle number 8152 was placed in the box.



Fig. 13. Frank Morton demonstrates the 'Match' hold. It is still used today by match shooters.

As well as the rifle, the box of 500 BSA pellets were also marked AJAX. A sticker on one side of the box carried the company's logo and also had the price of 1/4 handwritten upon it. The price of a card box of 500 Webley pellets in 1938 was 1/2, so the BSA pellets were slightly more expensive when originally bought from this retailer. Perhaps the shop had run out of Webley pellets or the salesman offered the more expensive brand as a substitute. We'll never know but the set certainly looks to have been together since it left the shop in 1938.

shooting out of the barrel as the .177 rifle dished. Some packing grease had got into the cylinder and I had to remove this with the greatest of care as that dishing could potentially damage the rifle or result in an illegal shot over the 12 ft lbs limit.

The rifle remains tight and each click during the cocking process gave the impression of using a brand new rifle. I have not fired many pellets through this Webley since that memorable occasion and rarely use it for fear of damaging the finish in some way. That is one disadvantage of this deal of a lifetime. The rifle is simply too nice to use but if that is all I have to complain about, roll on the next one.

Hints on Air Rifle Shooting

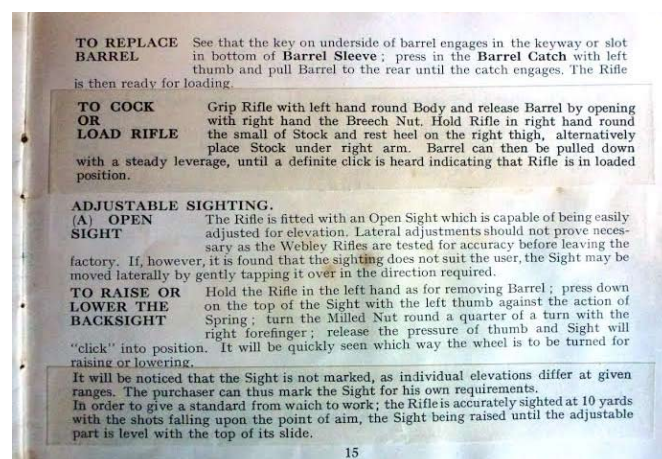


Fig. 14. Note the over stickers used to update early editions of *Hints on Air Rifle Shooting* such as this 3rd Edition. Image courtesy of David Clyde.

I did not have a chrono to hand but did not doubt the above figures after firing six or seven shots. I recall flames

As I briefly alluded to above, each new rifle was accompanied by a comprehensive instruction manual authored by Frank Morton, an International rifle shot and previous winner of the Bisley Grand Aggregate and Service Rifle Championship. Mr Morton was Webley's chief tester during the 1930s and his instruction manuals were produced in at least

9 editions. The first accompanied the 1st Series rifles, the second edition was for the 2nd Series and the rest accompanied the 3rd Series of rifles, being updated as and when necessary.

Rather than rewriting sections, occasionally a blank over sticker or sticker bearing revisions in the same font as the text in the manual can be encountered. For example, the second edition makes reference to the safety catch, whilst the third has a blank over sticker over the relevant section. The third edition I examined also claims good diagrams may be obtained at 80 yards with use of the peepsight, whilst one second edition I examined has an overprinted sticker over this section with at 80 yards amended to at long ranges, which was used in all later editions. Closer examination determined the third edition was actually a second with an over sticker proclaiming

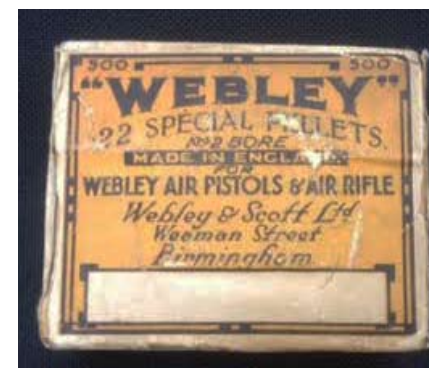


Fig. 15. Webley were still selling pellets in boxes in September 1937 according to the 6th edition of Morton's handbook (Image courtesy of Peter Binfield).

Third Edition. Presumably the 80 yards comment was from the first edition and someone forgot to add an over sticker to the third edition I inspected. Webley also claimed the Service was "Deadly accurate



Fig. 16. Original .25 barrels are a challenge for any collector to find as they were only available from 1937. Note the late type Intercepting Sear.

and extremely powerful on rooks, rabbits, rats, sparrows and similar vermin up to 50 yards range" in their handbooks.

I have never seen a first edition booklet but the second suggests early mainsprings were in two sections, whilst the third edition makes reference to a one piece spring. As well as a two piece spring, Second Series rifles were said to contain steel and rubber washers on the spring guide (parts 75b and 76b respectively). When replacing the mainspring, the second edition instructed owners to:

"Place rubber and steel washer on Spring Guide, then see that the section of spring with last two coils forming a double coil is placed on the spring guide abutting against the steel

washer, the other section of spring being placed inside the piston".

A late second edition examined carries two over stickers with an amended *To Replace Mainspring* passage which omits reference to the steel and rubber washers. A period handwritten note indicates "Latest springs in one piece & no rubber washers, etc" (sic). There are also

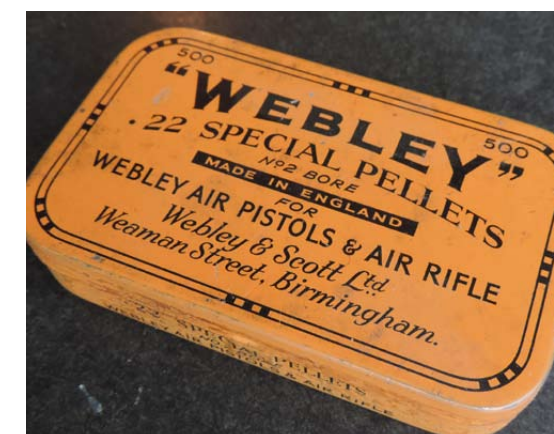


Fig. 17. By January 1938, Webley had introduced their distinctive oblong tin and included an illustration in their *Unrivalled Accuracy* catalogue.



Fig. 18. The patent rotary 'Breech Nut' forces the barrel back against the breech washer for an airtight seal.

differences in the accompanying text, which suggests variations within editions existed. It also indicates the

two piece mainspring was replaced by a single spring quite early on.

Clyde was informed by Webley that No 2 oil was simply SAE30 Grade Standard Motor oil when he enquired about this point before the factory finally closed in 2005.

This thicker lubricant kept the bronze piston ring constantly lubricated and the rifle acted as a miniature diesel engine in principle. The Service likes a little lube then and high flashpoint moly based paste and oil works well

Use the Correct Oil

Webley suggested 4 to 6 spots of light motor oil be applied to the piston through the slot in the top of the air chamber in the 'early' second edition if a fall in velocity should occur. In later second and subsequent editions of this handbook, they discouraged the use of light oils such as 3-In-1 and recommended their own No 2 oil to maintain high velocity. Webley collector David

enough today. As long as you do not overdo the oil and grease, the rifle will operate smoothly and consistently. The object should be to see a hint of smoke with each discharge of the rifle and certainly not clouds of it, accompanied by vicious recoil.

.25 calibre was added as an option and included in the sixth edition onwards. The sixth edition was originally printed in 1937 and reprinted privately in around 1990. The reproductions were of excellent quality and well worth picking up as a contemporary reference.

Final Thoughts

I'll finish this look at the Webley Service with a testimonial from a shooter in Ceylon, which was included with the 1938 Webley catalogue. "Your Mk II Air Rifle is undoubtedly the finest air rifle I have ever handled and I have owned from the single shot to the most powerful rifles, but none of them possess so handsome an appearance and more, important than all, such a perfect balance, which makes one feel disgusted of all previous weapons".

Strong words indeed and ones which suggest the Service had an almost mythical following around the world from the start, which has not diminished over the years. I have forgotten all about that .25 BSA!

Acknowledgements and further reading:
Cornell Publications: www.cornellpubs.com.
David Clyde for finding out the type of oil Webley used and for sharing research.
Hints on Air Rifle Shooting by F.E. Morton (2nd, 3rd, 6th, 7th and 8th Editions).
80 Yards Effective Range and High

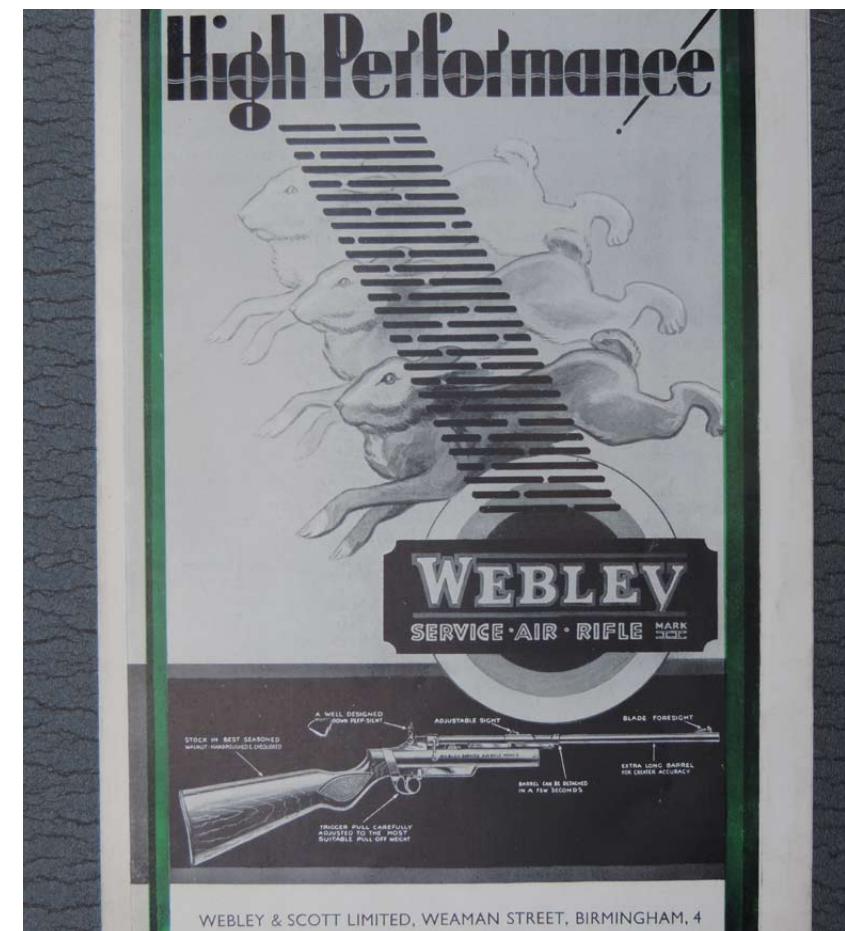


Fig. 20. This folded four page flyer was printed in several editions, as improvements and modifications were made to the Webley Service.

Performance Webley leaflets.
Webley Unrivalled Accuracy catalogues – 1937 and 1938.
Webley Air Rifles by Chris Thrale.
Romford Library for details on the

AJAX company.
Personal correspondence with John Atkins.



Fig. 19. The rear sight on the Webley (top) is situated considerably closer to the eye than the sight on a contemporary BSA and can seem more out of focus when eyesight starts to deteriorate.



Fig. 21. Webley claimed 'good diagrams may be obtained at 80 yards with use of the peepsight'.

Classical gas: a Luger look-alike

Brian Uprichard describes how he turned to Co2 pistols after fulfilling a collecting quest for English spring air pistols, and found the US-made Schimel didn't just look cool, it was bags of fun to shoot.

I first started collecting and shooting classic air guns shortly after the 1995 breech loading pistol ban, concentrating mainly on early British spring powered air pistols. Once the list of essential additions to my collection had been exhausted, I thought that was it and I could now stop chasing the next 'must have'.

At this point I had not paid much attention to CO2 or pneumatic (pump-up) pistols, seeing them more as 'plinkers' or possibly appealing to those wanting reproductions of live firearms. I do however have a Drulov 'Condor' CO2 semi-auto pistol which is a fairly serious competition

contender and am also aware of some classic Co2 powered 'Match' pistols from the likes of Hammerli and Walther etc.

My interest was rekindled recently and although I wasn't looking for anything too serious, it had to have some age and be accurate enough to be interesting.

The first Co2 pistol to meet this criteria was the Crosman 600 semi-auto with one thing then leading to another as is inevitably the case in the addictive world of collecting.

This article provides a review

of a classic Co2 pistol from my own collection and will hopefully encourage other traditionalists to give them a try,

A very brief history of Co2 Pistols & Rifles

Way back In 1889 Paul Giffard filed a provisional patent which was completed in the same year and related to a system of rifles and pistols being operated by liquidated carbonic acid gas (carbon dioxide). These were commercially produced, but not in great numbers and the design was overtaken by the spread of spring-operated designs.

In the 20th Century the American air gun industry seemed to settle on Co2 or pump-up pneumatic airguns rather than using spring power, and Co2 development re-commenced.

The two main competitors in the market were Crosman and Benjamin both of whom produced great numbers of rifles and pistols using



these power sources.

Although Co2 powered air guns were initially sold here in the UK, a few shooting incidents followed by 'bad press' prejudiced enough people to cause ill-informed legislation to be passed which restricted their availability. At the time there was some confusion as to whether Co2 guns should be classed as firearms with the usual, often conflicting, perceptions of what was or wasn't legal.

The situation was clarified in 1997 when low-powered Co2 guns once again became available without unwarranted restriction in the UK. An unfortunate consequence of the earlier restrictions was that no Co2 guns were developed within the UK during that period, although there were some excellent designs produced and exported by other European countries.

Today a multitude of Co2 powered guns are available in the UK, but as stated earlier, my own interest is

limited to earlier guns – from the '50s and '60s.

Schimel GP 22

Although the Schimel GP22 was not the first classic Co2 pistol that I acquired, I selected it for this article as it is

credited with being the first to use self-contained Co2 capsules rather than bulk charging from a cylinder.

The Schimel GP22 was manufactured with a rifled barrel in .22 calibre by the Schimel Arms Company located in California between 1952 and 1954 from a design by Orville Schimel. The small company went bankrupt in 1955 and the manufacturing fittings were acquired by the American Weapons Corporation. The pistol

in fact that the original paperwork accompanying it details that the word "FIREARMS" must be printed in not less than 36 point Gothic letters to any packaging before it could be legally shipped.

Filling the Schimel with gas involves pulling the charging lever at the rear of the pistol down which in turn lowers the chamber that contains the 8 grm Co2 capsule. A 10p coin is then used to undo the screw plug at the base of the chamber following which, a capsule is inserted neck end first, into the chamber and the screw plug tightened using the coin. The charging lever is now returned to the closed position the action of which pierces the Co2 capsule. The small button on the side of the pistol must now be pushed forward which closes the outlet valve. Finally, the charging lever is operated once again to complete this slightly

complicated charging sequence. The toggle at the top of the pistol is now raised and a pellet inserted into the breech which is seated when the toggle is closed. For successive shots it is only necessary to insert another pellet, push forward the valve button; and open and close the charging lever until all the gas is

used up. It is absolutely essential that the valve button is pushed forward before each operation of the charging lever as otherwise the entire contents of the gas capsule will be lost when the lever is pulled back. It would obviously have been much better had these



then underwent some further development and a version was marketed as the 'American Luger' featuring an 8 shot magazine and chambered for .22 lead ball ammunition. The pistol bears a strong resemblance to the classic German Luger, so closely



Although a pneumatic version of the GP22 designated AP22 has been referenced in catalogues, I'm not aware of any actual examples ever having been made. It could be that the relatively fragile cocking lever

two components been somehow interlinked, but the short production period didn't allow much time for development and improvement.

The Schimel used a type of gas release quite unlike anything that had been used before or since. It consisted of a sliding seal shaped like a double cup, the centre of which fitted closely over the breech end of the barrel tube whilst the outer cup flanges made close contact with the inner walls of the pressure chamber. The charging lever released a charge of gas in front of this seal, and when the trigger was pressed the disengagement of the sear allowed the cup seal to be blown backwards away from the breech end of the barrel by the gas pressure, thus exposing the pellet to the instantaneous blast of gas which drove it up the barrel.

wasn't up to the additional stress of a pump-up charging system.

Performance and Accuracy

Performance data for the pistol was recorded over a 10 shot string through a Skan chronograph using RWS Hobby .22 pellets each weighing 11.9 grns. The values were recorded after 5 unrecorded shots had first been taken to preclude any variation which may have occurred immediately after the fitting of a new Co2 capsule.

Average Muzzle Velocity : 396 ft. per sec.

Average Muzzle Energy: 4.1 ft/lbs

Number of useful shots per capsule: 25

Accuracy results were recorded using

a single handed, unsupported stance at 10 metres against an NSRA 10 Metre AIR 10 / 97 target.

The lateral sight adjustment setting was fine for me, and as the pistol was shooting slightly high, it was perfect for my normal '6 O'Clock' hold. Most groups held the black aiming area (70 mm) of the card with the best 5 shot string measuring 40 mm C to C.

Conclusion

Apart from looking extremely cool, the pistol sits nicely in the hand and has proved an absolute pleasure to shoot. The elegantly 'curly' trigger has a consistent light



'let off' and there is a small amount of lateral adjustment available to the rear sight. As with all Co2 pistols there is no felt recoil, but quite a lot of accompanying noise which only adds to the experience. Although the Schimel could never be described as a serious target pistol, it is acceptably accurate and can undoubtedly provide a great deal of pure fun.

Acknowledgements

Airguns and Air Pistols L. Wesley

Blue Book of Airguns Dr Robert D. Beeman and John B. Allen

Airguns and me

Trevor Adams, the celebrated airgun writer and owner of the *cinedux.com* website – one of the most enjoyable reads on the internet – tells how he embarked on his long affair with airguns, a love undimmed by the passage of time. Even his career as a medical doctor sometimes took a backseat to collecting and writing about vintage airguns.

"Now. Now!", whispered Donny.

Feverishly I tugged at the trigger of the lever-action Daisy.

"POOF!" went the gun.

"AWAAARK!" went grandma's rooster.

"You little sod!", screamed the ancient one from her kitchen window.

I'd had my first shot with an air gun.

Talk about love at first sight. That night I dreamt I made great changes to life's circumstances – with the aid of a BB gun.

Don shortly went off into the army and at a very tender age I found myself the keeper of, 'the toys this young soldier had put away to become a man'.

Amongst them was his Daisy air rifle, my first air gun. I think kids grew up a lot quicker during World War 2. With parents still in their twenties and

more concerned with the plight of the world than anything else, the likes of me were left to their own devices. I recall starting school in 1939 – my mother walked me the two and a half miles from home to the school.

I had to find my own way back home in the afternoon. Well, that isn't strictly true, a little girl, Beth, showed me the way back to our street. She also asked me to marry her. Poor child, she didn't realise I'd given my heart to airguns. As a nun would do to Jesus, I did to Daisy at that time.

I knew other kids with airguns. Ones who were not as discreet as I. Ones who discharged BB's etc, indiscriminately, quickly arousing the ire of parents and neighbours and resultant confiscation of the item that was giving so much childish joy.

It was a darn good idea to conceal one's weapons of fun. My own method was to put the treasured object at the bottom of a drawer stuffed with comics. During the war



THE GAT AIR PISTOL



The Gat: My first concealed weapon.

we got massive Yank comics, half an inch thick and the size of newspapers. Excellent for concealing air guns and good reading as well. In 16 years my father never discovered my cache of guns!

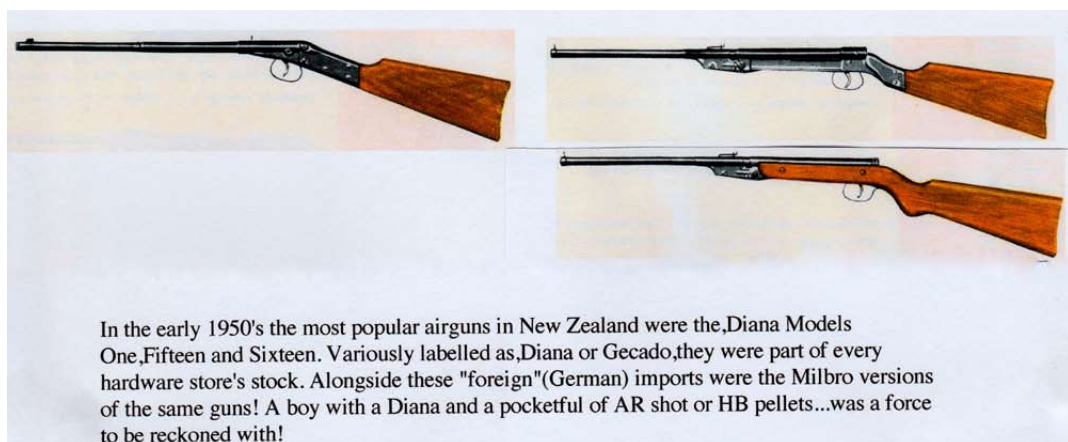
By dint of guile I traded my Daisy for a couple pop-out pistols. Pre-war Gat-style shooters. I think the inclination to have pocket-sized guns was deep within my psyche. In very low terms, I wished to 'pack heat'. Once I tired of fondling and cocking my latest acquisitions, I found it necessary to dismantle them. That's how I discovered the Gat was a REAL airgun. It didn't just lob a slug out as the pop-out barrel came to rest, it actually blew the missile out of the muzzle.

Such a discovery was 'Einsteinian' to me. Towards the end of the War I'd accumulated a fair number of pop-outs and tinplates (as most BB guns were called). Once I'd discovered my fellow shooters really had little idea about the internals of their airguns, a new door of opportunity opened for me.

Most of these fellow kids seemed to load anything of near enough to the right size, into their shooting irons. Consequently, many an airgun quickly became inoperative or, worse, gave it's owner a very nasty surprise – a state of affairs

that occasioned the said owner to feel he'd be best off divesting himself of the offending object.

This is where I came into my own. I'd offer a shilling (or a packet of fags) for the despised, useless gun. Deal done, I'd retire to our garage where the gun would be dismantled and repaired. I know that sounds good; I'd best qualify it. My repairs mostly seemed to last only for a few shots. Don't know why, one of life's little mysteries I suppose.



In the early 1950's the most popular airguns in New Zealand were the Diana Models One, Fifteen and Sixteen. Various labels as Diana or Gecado, they were part of every hardware store's stock. Alongside these "foreign" (German) imports were the Milbro versions of the same guns! A boy with a Diana and a pocketful of AR shot or HB pellets... was a force to be reckoned with!

Didn't stop me offering such 'fixed' guns to mates for half a crown. I was on my way to being a genuine horse trader! Said mates could not afford to be anywhere near as indulgent about my gun-smithing though, and a

number of refunds were a sequel. Live and learn.

From time to time, down the years, I'd ask my dad if I could have an airgun. "When you are 16 and have learnt theorem 8", he'd reply. How little he knew.

As a boy on the fringe of the Empire I was well aware of the esteem BSA and Webley air guns were held in. I coveted the products of these firms and collected their adverts, cut from comics and Meccano magazines. Although the smallest of hardware shops in post-war New Zealand seemed to sell air guns, I'd have to say such purveyors of the necessities of life were more inclined to stock low end of the market items like Diana Models 1, 15 and 16, Gats and Acvokes.

The latter pistols were *BIG* in NZ. Lots of stationary stores sold packets of slugs. Mostly .177 and made locally. 'HB' slugs and "AR" shot were hot items with the kids. CAC or, Colonial Ammunition Co. slugs were about the

most expensive you could buy. Loaded with CAC ammo you certainly didn't shoot until you saw 'the white's of their eyes'.

Personally, I had a leaning towards

round shot; I seemed to be always buying AR shot in it's fancy wee carton. The steel BB was noticeably absent at this time. I suppose all the iron had gone into battleships? We did get some Aussie-made stuff.

In hindsight it was all very toyish but even in the late 1940s we (the shooting kids of NZ) knew that in Australia you had to have a permit to own a CRACAJAC, a Hornet or a K&W BB shooter.

An outfit in Auckland, NZ made a thing called a CEE-BEE air gun for a short time – a really agricultural, lever-cocking gun that was muzzle-loaded. You cocked the action then spat a round of AR Shot down the muzzle – and at the time I'd never heard of Davy Crockett!

These antipodean air guns were not from the same planet as the likes of BSA and Webley guns but they were, as the saying goes, 'as cheap as chips'. Great for going 'wrong' quickly, easy to fix temporarily, and a great little earner for yours truly.

As the years wore on (by 1949 I was in the school cadets using a SMLE converted to .22 calibre) my attention did wander from air guns to powder guns, but I *always* owned 'a few' pneumatic oddities.

One such item was a Milbro CUB pistol – a sort of squirt gun. Squeezing a rubber bulb in the grip of this pistol

time I resisted the urge to examine this device...

It would be fair enough to say the Cadet Major and I hunted the same rabbit each evening for a year! I'd stalk and stalk then with one shot kick up the dust in front of or behind the rabbit. Off it would go! See you tomorrow night. Eventually it simply took no notice of me.

I well recall the day I first visited the mezzanine floor at Wiseman's Sport Store.

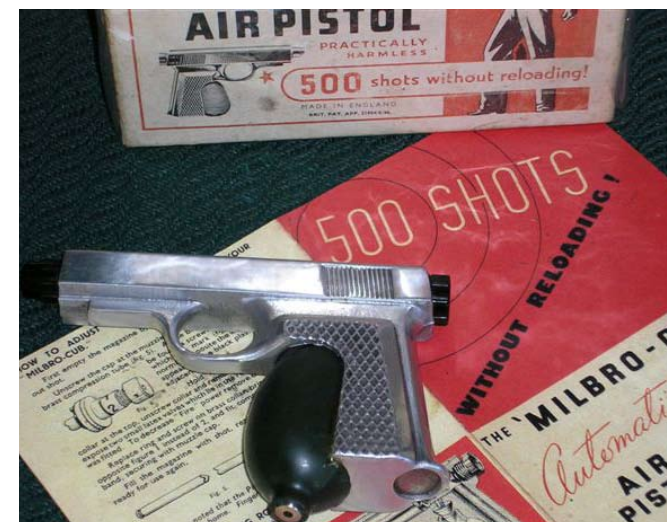
Glass counters were filled with gleaming air pistols. Webleys, Acvokes, Dianas, Crosmans, and Benjamins. Simply dazzling. No other word for it, I was in love again!



New Zealand-made airgun ammo.

propelled tiny shot out the muzzle. As the magazine held 500 rounds you could shoot all day, or until you got cramp in your hand.

The serious shooter in me determined I should devote more time to my most precious acquisition of 1950, a .177 calibre BSA Cadet Major. What a lovely rifle. It even had an air filter in it's transfer port. For a long



The Milbro Cub.

In ensuing weeks I handled just about all these pistols. Weren't shop-keepers wonderful? They really enjoyed demonstrating products.

I found I was being drawn to some unusual guns; those from the USA, powered by CO2. They required hardly any cocking effort and they shot harder and more accurately than any of my spring-powered guns. I think these single-shot CO2 guns signaled an air gun renaissance for me.

Away from these new arrivals from America, most air guns I came across, right up until the late 1950s, were of pre-war vintage. It would be safe to say that, at the time, I thought of such guns as just 'old'. I also think, the hankering for 'new and novel' prevailed in the Adams mind.

In a word, the 'collector gene' was still pretty dormant.

The turn of the '50s saw a whole new array of air guns in sports stores. Dianas, Sheridans, Benjamins, BSAs, Hy-Scores, Webleys and Walthers; a chap was spoilt for choice. By 1963 I had a wall in my office covered with contemporary and older air guns. They were in full view of everyone and drew no comment what-so-ever. We had a quarter acre section and I shot my air

guns in the backyard.

My career took us to Australia. Laws regarding gun ownership were strict there. Air guns were lumped in with firearms and it was necessary to sit a license exam to even own, say, a Sheridan pneumatic rifle. Also, owning an air pistol was only possible if you



belonged to a shooting club. No room for collectors in Oz!

My guns languished in storage, back in Auckland. I pined for them – truly. So much so, we decided to return home to New Zealand. I still recall the joy of reunion with my air guns. Since that day I've not been without my collection and never will be!

Things bobbed along nicely in the 1970's. My collection had outgrown

cupboards and display walls – it really needed a room of its own. With the help of the outdoor staff I set about building a 'Trev's cave'.

Heated, carpeted, with walls that were half panelled and half pegboard, it really was quite magnificent. A 2m-long work bench allowed me to fiddle

with guns to my heart's content. The collection adorned the walls: Britannias, BSA's, Giffards, Gems, Webleys, and air canes.

At one time I had eight Webley MkII Service rifles and there were pistols galore. Fifty-five Webley handguns made up one corner of the room. Of course, on top of all this classic steel was an assembly of USA-

made guns – Sheridans, Crosmans, Benjamins, Apaches, Kesslers and Rochesters. Pneumatics and carbon dioxide powered. It truly was an Aladdin's cave and I hated having to leave it to go to work!

Over my work bench I have placed my Bussey air gun. What a rare wee beast this one is. Cased and complete, it only cost me 60 bucks. I bought it from fellow collector, Neville Lodge OBE, who was at one time

New Zealand's foremost political and sporting cartoonist. Things were indeed good in the 1970s – and they didn't cost too much either.

I learnt a lot from joining the Antique Arms Society. Many firearms collectors had the odd air gun lying about. These guns were invariably collectable to them because the owners were only attracted to 'old iron'. I'd prowled around country auctions picking up things like old BSA peep-sights which I'd trade for, say, an Improved Model D BSA. Every now and then a collector, needing fast cash for some exotic purchase, would phone asking if I wanted his old Westley Richards pistol – "serious money Trev"! I'd take it; cost is soon forgotten. I'd flick off a couple of contemporary air rifles to defray costs.

Now here is where I got really lucky. I was given the opportunity to write product reviews for *NZ Outdoors* and *Rod & Rifle* magazines. This put me in touch with just about every new airgun on the market. It was a time of plenty and sports stores would have upward of 30 different air guns, rifles and pistols, on display.

We airgun collectors were traditionally a pretty secretive bunch but I must say 'going public' in a magazine put me in touch with a host of goodies. My interest was, and always will be, the old and odd air gun but getting involved with the new and flash did



On 8th August 1876, George Gibson Bussey, an English sporting goods manufacturer, was granted the first British patent relating to the design of a spring-powered airgun, the only all-British airguns made in the latter part of the Victorian age.

me no harm at all!

Early in the 1980s I met my friend, Trevor Morris. We were kindred spirits, although I always thought Trevor's collecting was a bit more refined than my own. He had a great nose for condition and rarity. Trevor was teaching in the lower North Island. We were hundreds of miles apart and toll 'phone calls were expensive.

However, we managed to cobble together a magazine called *New Zealand Airgun*. Published quarterly, it found a bit of favour across the airgun world. Those were halcyon days. I truly don't know how I found time to practice medicine.

We would churn off 14-page letters to one another every evening. Even though I was still doing my product stuff I was a bit sad when *NZ Airgun* folded. All good things... as they say.

New Zealand got a new magazine at the beginning of the '90s. Initially named *New Zealand Guns*, it became *New Zealand Guns & Hunting*. Edited

and produced by Peter Maxwell it was, and still is, the country's most prestigious sports periodical.

Better than that, Peter offered me a column in his new baby! The rest, as they say, is history. For the past 24 years I've been able to write bits and pieces about my collection and this writing has put me in touch with a host of folk harbouring old airguns!

I must say that over the past three decades I've rung the changes on my collection. Gone are most of the Webleys and spring/piston guns and in their place are gas and pneumatic weapons, mostly from the USA. Seems I just can't shake my fascination with multi-stroke pneumatics and CO2 powered guns. Just lately, I've been smitten with the 'Daisy bug' again! Look at this cracker, a Model 140 'Defender' BB rifle from 1942. What goes around comes around, eh?

© Trevor Adams



Daisy Model 140 'Defender'.

A bodger's guide...

Phil Russell offers tips on restoring airguns to a decent, working condition. But if your aim is to bring them back to 'showroom' condition, this guide probably isn't for you.

Over the years, many guns have come my way that are in need of tlc, usually from auctions where, although you can see some defects, others remain hidden until the gun is stripped. Advice on stripping airguns, is given in the 'Idiot's Guide' on the AirgunBBS.com (collectables section). A few more words of advice may, however, be appropriate.

For many old guns, new parts are not available or are very expensive. I thus concentrate on producing an aesthetically pleasing restoration that works and is as close as possible to its original condition. It is not my intention to restore old guns to mint condition, so if you are a purist who demands only mint condition guns for display, this article is not for you.

In addition to a basic tool kit some tools can make life much easier:

- a dremel type minitool complete with cutting discs for cutting screw shanks, pins and mainsprings etc.
- A small pencil gas torch; just the job for reforming mainspring ends.
- A spring compressor. For years I used a sash cramp clamped in the vice but finally made a more versatile unit. It cost very little to make; all I had to buy was a couple of feet of threaded bar and a 'union'. The rest was from the scrap box.
- A hobby type mini-lathe. A pure luxury. I am not an engineer and



Homemade spring compressor with various spacers and inserts for different barrel sizes.



Diana 22: Complete refurb needed, screws, seals, bluing. Stock was OK.

do not have the necessary skills to carry out operations itemised on the BBS by the expert 'resident tuners'. But my lathe is perfect for reforming screw and bolt heads, reducing screw shank diameters before rethreading and for making new pins. Many operations can be carried out without a lathe, but it does make life so much easier and more fun. A very worthwhile investment.

- Vice clamps: It is often necessary to clamp a cylinder in a vice. I use homemade rubber faced clamps for this: take a short, 10 – 12 cm length of kitchen waste pipe and cut it lengthways. Obtain a length of 10cm wide x 4mm thick rubber belting and cut two lengths to match the length of your pipe. Glue the rubber sheet onto the inside of the pipe sections, clamping them around more pipe to ensure the glue fixes the sheeting in place.

When placed around a rifle action they provide superb grip without letting the vice jaws damage the action. If by any chance these grips are not good enough, I use a longer length of belting wrapped around the length of the cylinder and clamp the complete unit in a 10" woodworkers vice.

Disclaimer: Dismantling and reassembling spring piston air guns must be carried out safely. The author cannot accept any responsibility for damage or injury caused to property or persons, should you carry out your own repairs or renovations.

Now let's consider some restoration issues:

The inappropriate bolt/screw/pin

We have all seen it: Odd bolts and nuts, self tapping screws or even nails used to hold a gun together or provide pivot points. They invariably look awful and put many people off buying an afflicted gun. But with a bit of effort, the gun can be made to look quite acceptable.

Sometimes the repair has not caused damage e.g. to screw threads and it may be possible to fit an original part or modify another screw with the same thread pattern. I used to think that all guns from Europe used metric threads but experience has taught me never to assume that to be the case. Many do, but many also have BA or imperial threads.

In contrast, old guns originating

from the UK very rarely have metric threads, at least until you get into the more modern era of the post 1960's. But beware BSA. They had a great tendency to use their own thread patterns on their guns and cycles.

So, what can you do when you need to replace a bolt or screw? Examination of the gun will tell you what type of screw is needed. Is the head recessed into the action? Is it a 'pivot screw' that requires a smooth shank in the pivot area? Does the screw need an external nut or thread into the action? External nuts are not very common on older rifles but are quite common on rifles from the 1950's onwards. They tend to be round types with a slot across the top that can only be gripped using a driver with a central cut out.

Such a driver is easy to make by cutting the centre out of a wide blade. Making a new round nut is also easy; start with a hexagon nut, file the corners down to increase roundness then either round off using an electric drill and a file held in a vice or use a lathe. Mount your nut on a long bolt and clamp it using more nuts and spacers. The nut may try to unwind off your bolt during the operation so file or turn it in reverse gear. Keep

filing or turning until the nut diameter matches the recess in the gun.

If you cannot find a smooth shank for the pivot part, start with a wider diameter shank and file or turn the thread off until the diameter matches the holes in the gun. You will obviously need to remake the threads on the screw using an appropriate die. For the screw head, you will most likely have to reform it. I often start with an allen hex head bolt and file or turn the recessed hex part off before finishing to the correct diameter and depth and adding a slot with a hacksaw. This has the advantage that it is generally possible to find allen bolts that are not threaded along all their length, making the fitment process easier.

If the original thread in the gun is damaged, maybe by someone forcing a self tapping screw in, or an original screw thread is not available, you will need to retap the gun. This is rarely a problem and my favourites are to use 2BA or 5mm threads.

Pins are generally a much easier fix and I use HSS drill shanks. I always save my broken or useless drill bits for this purpose and have never failed to find a suitable replacement. I use a dremel to cut to length.

I was recently faced with an Airsporter MKI with a missing stock bolt. New ones are available but I found the

thread to be 5/16 whitworth and a coach bolt was soon fashioned into a fully functional replacement at negligible cost, only time.

Heat and oil blueing

Remaking screws, bolts and pins will leave a bright surface to the new item. The easiest way to 're-blue' the surface is to heat and oil blue it. If your screw or bolt has a bright zinc finish, this will need removing by filing or emery paper. Get the surfaces to be blued as smooth as possible. Hold the item in needle nose pliers or on a wire loop and heat in a small gas flame until dull red. Quench in old engine oil and you should have a nicely blued item that will look good on the old gun.

New breech seals

Do you need a new seal? Testing a suspected faulty seal or tap can be done by loading the rifle and placing a bit of moistened tissue paper over the breech/ tap/cylinder junction. If the tissue blows away on firing, the seal or tap needs attention.

Many seals are fitted into a groove with an outer diameter of c.12mm and an inner of c.8mm. For these, if the old one is compressed but intact you can often restore it by adding a thin card or plastic shim underneath it.

Replacement seals are easily made

from leather, tap washers, ball valve washers or rubber/plastic tubing if the seal is a deep or angled one in a groove. Simply push tubing into the groove and cut slightly proud of the breech face. A shim used as a guide helps.

A set of wad punches is a good investment for cutting seals and can be had for the price of a couple of new seals. For small holes, use a leather punch. Where the seal is a simple disc, usually leather, make sure there is a clear hole in it as these tend to close over with time.

Repairing a leaky tap is more difficult; some are adjustable but you run the risk of misalignment between the tap and the bore. Replacement taps are sometimes available but if the tap has worn it is possible that the locating hole in the action has also worn so even a new tap may leak. Taps can be made if you are confident with a lathe and pillar drill and would overcome wear in the action but it would be a labour of love.

I have tried all combinations of coatings on taps except for electroplating and none have proved long lived. An idea I tried was to fit PTFE tube in the tap so that it sealed the tap against the action. It worked but I felt it deviated from the original engineering too much.



Diana 27, 1926: Complete internal rebuild, stock repair and refinish, some screws.



Super Meteor: stripped and refinished stock to original colour.

New piston washers

Leather piston washers can disintegrate in time or maybe yours contains pins, nails, and other detritus from an age of misuse. It is quite simple to make a new one. I use bits of hide, belts, old bags or even an old bicycle saddle. Car boot sales are good sources of supply. Most washers are held in place with a screw countersunk into a steel or leather central former.

These rarely cause problems although I have seen broken screw heads due to the piston slamming into the cylinder end when the washer disintegrates. If the screw has broken, remove it and replace. It may be necessary to cut the old washer away first. You may need to reform a new screw head and/or retap the piston to accept a new thread.

To make a new washer I start with a disc 2cm larger than the piston. You can use a hole saw to cut it out, but this is not absolutely necessary; you can cut an approximate circle with snips and form it correctly later. I treat unformed washers with 'leather stretcher' solution first to make them pliable. The solution can be bought at shoe shops but is only isopropyl alcohol (rubbing alcohol) so if you can

source some of that it is cheaper.

Assemble the new, pliable, washer on the piston head and use a jubilee clip around the piston to begin to form the cup. Add more stretcher solution if needed. Do not expect to form the complete cup immediately. Go carefully, easing the washer into a cup shape by tightening the clip over a period of hours. While waiting, I keep the washer immersed in neatsfoot oil in a jar.

Eventually you will have a good cup washer the same diameter as the piston. You can now trim excess leather from the perimeter. Use the clip as a cutting guide but do not cut flush with the end of the piston .. allow 3mm extra so that when fitted, the washer can compress down and still be flush with the end of the piston head.

If your new washer is a tight fit in the piston, either tighten the jubilee clip a little or carefully remove a little leather from the sides of the washer. But be careful not to overdo it. It is a good idea to fit the new piston plus washer into the gun and leave for a day to allow the spring pressure to form the washer. Remember to clean the inside of the cylinder before fitting the new unit.

Small springs

Small springs on old guns include the trigger spring or springs and maybe some smaller springs associated with loading taps; again expensive to buy alone. I collect small springs from kitchen sprays, soap dispensers, ball pens etc. You can buy selection boxes of springs from various shops but I have rarely found them to contain springs of any use. If you cannot find a spring, search the net for spring suppliers. Very often you can buy a pack of ten or more springs for the price of one from a spares supplier.

Get the wire gauge and pitch as close to original as possible. Consider buying longer springs and cutting them to size, so getting two springs for the price of one. Or make your own springs from piano wire. It is not difficult and there are several guides on the web. A lathe helps to provide the turning force but I have made several by clamping a weight to the end of a length of wire while I turn the coils over a steel rod by hand.

Some springs are more specialised. Note I said 'specialised' not 'difficult'. I am thinking of such items as the trigger springs fitted to the BSA Meteor, Airsporter / Mercury and a few other rifles. Basically straight wire



Haenel VIE: Complete refurb required. Trigger block was seized and mainspring was unwinding into the block!

springs, not helical ones. It is quite possible to make your own from piano wire, using the old broken spring as a guide and carefully bending the wire into shape using round nose pliers. If you do not have the original to copy, search the web for a picture of the spring shape.

Ball bearings

Ball bearings are found in the notorious Diana / Original 3 ball triggers, as part of a locating assembly in some tap loaders e.g. Airsporter and safety catches in more modern rifles such as early Daystates. Again, the balls can be very expensive to buy as single items, or as three in the case of the Diana trigger. Yet they are invariably standard size bearings available in small packets from cycle shops. The Diana 3 ball trigger uses 4.75mm (3/16") balls.

Those used for other applications are usually around 1/16" – 3/32". If you need to fit a new ball into a blind hole, often with a spring at the bottom, ensure that the ball has enough clearance and will not stick in the hole.

Home blueing: Yes or No?

The question of re-blueing an old action is a common one. Provided the metal work is reasonable with a

fair patina then I prefer to rub it over with fine steel wool soaked in oil. This will remove thin patches of light rust and give an acceptable finish. But there are times when more drastic treatment has been needed, for instance if a previous owner has removed all previous blueing and left a bare steel or painted finish. In these cases I will consider 'home blueing' using one of the cream or liquid preparations.

With good preparation of the steel, as per instructions, a fair finish can be achieved albeit with several treatments. I have noticed, however, that different parts of old rifles react differently to the blueing process. Barrels are usually fine but cylinders and particularly trigger blocks can take on a different hue. Once cured and

oiled, they look fine.

Some rifles were originally painted or powder coated. These can look very sad when chipped and scratched so I do refinish them at times. It is a case of stripping the disassembled rifle back to bare steel and cleaning it as for blueing. I then spray it using Plasticote or Hammerite (gloss or satin) to match the original as far as possible.

I have done this recently for a Super Meteor and the result was very good. I lost the gold inlay for the cylinder marking but retrieved it by using a water based acrylic gold paint; using a very fine brush to fill the letter recesses one at a time, letting dry for a minute or two then wiping excess away from the surface with a damp rag. Not having done this before I was surprised at how easy it was. I practiced first on some scrap steel. I had been told to use nail varnish but found that the acetone in the varnish reacted with the paints; even acetone free nail varnish remover reacted.

Stock repair

I avoid seriously cracked stocks but will consider those with hair line cracks, usually in the pistol grip. Such cracks can be repaired by squirting a good wood glue or superglue into the



Range of tools. Cylinder clamps, peg drivers, socket used for the Original Model 50 series, end block adaptor and just wound springs awaiting finishing.

crack. If possible I firstly run some emery paper through the crack to remove any dirt. Clamp the stock firmly around the crack and leave to dry.

Refinishing stocks generates much debate. I have done several where the old finish has chipped or is badly scratched or faded or stained. I strip back to bare wood and usually stain the timber again, although a walnut stock rarely needs staining. Do not imagine that you can apply a walnut stain to beech and get it to look like walnut ... you will almost certainly fail.

For beech I like to use a deep mahogany stain. Small dents can often be removed by applying damp heat to the dent and letting the timber swell to remove the dent. I dislike filling deep dinks with filler. Filling is no problem but I have yet to find any filler that takes stain like the stock. My favourite final finish is Danish oil applied using a cloth as several coats over a period of days. You can achieve a good matt, satin or gloss finish depending on how many coats you use.

Having said all the above, I have just renovated a Super Meteor where the stock had been immersed in flood water for two days. It looked awful but was still perfectly intact. In this case I removed the old lacquer coat and repainted using a water based



Mini lathe preparing to reform a screw head.

varnish stain that matched the original exactly. The end result was extremely good.

An odd but successful repair

An elderly neighbour had a BSA Ladies Pattern. It had been in the family from new and the owner was quite attached to it as he had used it when 'I was a lad'. However, the cylinder had become loose on the breech. During manufacture this threaded joint was soldered or brazed together. It was now possible to rotate the cylinder on this thread with maybe 10mm of play. A gunsmith declared it uneconomical to repair and my neighbour was understandably a little sad. I was told the tale and offered to have a look and see what could be done.

The repair was fairly straightforward; strip the rifle and unscrew the cylinder from the breech block, clean everything up and use JB weld to reassemble, taking great care to

ensure everything lined up as it should. I fitted a new piston washer as the original had disintegrated but surprisingly the mainspring, which had BSA stamped on the end, seemed OK. After a good clean of the action and stock, the owner was delighted with the rejuvenated rifle. Performance was about 'on spec' so I was happy too. I know the neighbour spent several hours in the following days plinking away in his garden.

Removing and Refitting the Mainspring

The early BSA, Lincoln Jeffries and those built on similar lines e.g. several Haenel and early (pre WWII) rifles all used a screw on trigger block; indeed the later BSA Airsporter and Mercury also used this fitment.

The early BSA types are the easiest rifles to strip providing the trigger block co-operates. I do not use a spring compressor for these,



Reassembly of a Diana 22 showing cylinder clamps in use.

preferring to clamp the action with rubber faced pads in a vice. Look carefully at the trigger action; for some rifles it is necessary to remove or at least pull the trigger while unscrewing the trigger block otherwise part of the trigger impedes the screw threads. It is not always necessary to remove the stock on these early rifles but I usually do so as it removes any temptation to use the stock as a lever.

Hopefully the block will unscrew easily. If it does not you will certainly need to remove the stock, trigger guard plus adjustment screw if fitted, and the trigger complete with pivot pin and spring. The space thus created can then be used to insert a bar to exert leverage to unscrew the block. I begin with a wooden block to provide leverage, a gentle tap with a mallet is usually sufficient.

In extreme cases, I have had to heat the trigger block junction with a hot air gun and upend the action in thread releasing fluid for a day or two before a good knock with a mallet cracks the thread. To finally remove the block from the cylinder I always wear a thick

leather glove on my right hand as I unscrew the block. You never know how much preload is there.

To replace the block under spring tension, I clamp the trigger block in the vice using padded grips and offer up the cylinder as I find this gives me better control. For tap loaders, I often use a wooden block recessed to take the muzzle, minus the foresight. With the block in place it is easier to push against it while using the left hand to guide the cylinder onto the threads and begin thread engagement with the left hand. Again a leather glove is worn just in case of a slippage. I know some people advocate placing the trigger block on the floor and using body weight to compress a spring while trying to engage screw threads but I only tried it once. The lack of absolute control convinced me not to try it again.

For a break barrel I would not use my block method in case the action 'broke' in the process. I would remove the barrel and mount the block to the bare cylinder before completing the rebuild.

And finally: Never assume...

...that a rifle you just stripped had been put back together correctly by a previous owner. I remember my first Airsporter renovation. It had a broken trigger spring that was bent and only attached to the sears at one end. I decided to make a new one based on the old shape. I failed as my 'good straight shape' simply would not fit properly.

I should have looked at an exploded diagram of the trigger block in the first place. When I did, I realised the old trigger spring had been fitted the wrong way round. A senior moment? Ten minutes later I had made a new spring that fitted and functioned perfectly.

Getting an old rifle working as it should and looking good in the process is great fun. Our rifles are shooting items; just as intended. Enjoy.

...Or, pursuit of perfection

Barry McKenzie explains how he brings tired vintage airguns back to life 'from the grave' to 'as new' condition – using techniques developed over decades after much trial and error, before he learned how to hit the 'sweet spot' in the art of restoration.

To restore or not to restore, that's the question that frequently confronts the collector. We come across all sorts of guns in all sorts of conditions and though many of us still dream of opening the magic box and revealing that "elusive minter" looking like it did the day it was made, for the most part, the minters remain just dreams and we have to compromise. Many collectors are happy to buy a roughie, just to own an example of a particular



Giffard Match.

type of gun, others however, have a different agenda.

When I began collecting, I had no idea what to buy, or where to find it. The few interesting pieces I was offered were usually in a dreadful condition; but there was an upside to this. In those days my goal was to take every "graveyard" piece I could find, and make it look brand new again.



Walther DST before restoration.

I had an engineering background, a fully equipped workshop, so why not...what harm could it do?

I set about restoring at a cracking pace...almost every gun I bought got the treatment. Collecting however is like much else in life... as your experience grows your views naturally begin to change, and so I became more discriminating with regard to what I bought and what I restored... after all I had

noted that many collectors looked down their noses at restored guns, and it seemed that even beautifully restored guns traded for less than

dowdier, but original pieces. Why was this, I wondered, what did they want from an old airgun, what did they expect to see in it?

Well of course, everyone sees something different, but what was I expecting to see, what would be my criteria for restoration? The gun would have to be interesting, something with a tale to tell; no point in restoring cheap Chinese. It would also have to be pretty far gone. The worse the condition, the smaller the chance of something really valuable being lost.

Any restoration will erase something, but as long as it's only rust, brutalised screw heads, dents and stains, and the gun really is



Walther DST after restoration.



Ancient initials under a Giffard buttplate.

being saved from the graveyard... what does it matter? What must be preserved at all costs, is whatever magic the gun still possesses.



Badly drilled collet.

I find this magic in the way these guns were made, the people and machines that made them, and the often troubled times they were made in. The rough marks left by an ancient milling machine as it chattered its way across some part or other, in a time long before

Manteufel, Falke or Langenhan, often with exotic logos – all endlessly fascinating to the collector.

easily lost.

Sadly, many of my early 'restos' suffered from over enthusiasm. Missing parts were perfectly replicated, rusted metal perfectly polished and blued. Split and stained wood repaired and varnished to

precise CNC machines. The sanding scratches left on a hurriedly finished stock, the pencilled initials of some long departed worker, hidden behind a butt plate, the names of long gone makers, like

Also fascinating are the ancient mistakes I find from time to time. Holes drilled off-angle, parts welded to others out of sequence or at the wrong angle, before being patched up, packed up and sold. This I find most frequently on old German guns. These quirks lend the gun an aura, a magic which is so

perfection; guns looking better than new. But that was where I was going wrong. They never looked that good in the first place – I wasn't actually restoring at all, I was creating something new, and rather artificial.

Gradually it dawned on me that restoration is a much more subtle business than I ever imagined. To erase the rubbish, whilst enhancing the magic and hit the spot perfectly, is no mean feat indeed. It takes skill and judgement, born of experience, and that takes time, and usually quite a few disasters along the way.

When it comes to restoration, everybody has their own ideas. They may have picked these up or evolved them over the years, or even had them ingrained in apprenticeship. There may be a few "tut tuts" out there at some of my methods, but they have worked fine for me.

To restore an old airgun, we need to consider three elements: Wood, metal, and mechanism. In this two part article, we will be dealing firstly with the wood.

The wood

Elderly gunstocks in need of restoration frequently suffer a combination of dents, gouges, splits, oil soakage and rust stains. So how do we deal with these? My technique has been to start by dropping the stock into a container of cellulose thinners and let it soak for a day or two.

After a good soaking, you'll find that most of the old varnish has dropped off, and what remains will come off easily with a scourer pad. An added bonus of this treatment is that the thinners will have leached out much of the oil which has soaked in

over the years – this is good news if there's any gluing to be done.

With the stock dry and residual varnish removed, we can examine it. If there are any troublesome iron stains, from trigger block, or butt plate I drop it into a container of oxalic acid solution. Oxalic acid crystals can be bought cheaply at most furniture restoration stores, and mixed with water the solution bleaches out rust stains with a vengeance, whilst at the same time giving walnut and many other timbers a lovely golden hue.

This done, flush the stock thoroughly in warm water to remove the acid residue. If the stock has any dents or bruises, now's the time to steam them out, while the wood fibres are full of moisture.

Apply steam to each dent for a few seconds and you'll be amazed to see how quickly it lifts out as the underlying wood fibres swell. Steaming won't always remove a dent completely, but it does greatly reduce it's depth, the amount of sanding required, and thus the amount of wood to be removed.

With dents steamed out, it's time to put the stock away somewhere cool for a week or more and let it dry out slowly. Before doing this, check carefully for splits in the wood, typically around the large area of end grain at the butt. If you find even a hairline crack, apply a "G" Cramp to the area to compress it whilst the stock dries, if you don't do this, there is every chance the crack will enlarge, warp and become near impossible to fix when



God bless Parcellfarce.



In the jig.



Fixed.



Dents before and after steam applied. In the second pic they are almost gone.

the stock is dry.

Drying must be very gentle at first – no radiators or even airing cupboards for the first day or two, but when it has completely dried, it is time to repair any cracks or splits that are present. These are to be treated separately from major breaks, which I will deal with later.

Having ensured that the area to be repaired is dry and relatively oil free, I remove any free splinters and debris and clamp the stock up to see how the split closes, always using wooden pads to minimise damage to the wood surface. After a little experimentation with clamp position and sometimes even purpose-made contoured clamp pads, the split should close ok.

Now I gently warm the stock with a heat gun, and back the

clamp off to allow the split to open. Then I introduce the glue.

My favourite is the thinnest modelling grade superglue which wicks right into the deepest cracks, cures very quickly, and if you have done your setting up right, you will find it leaves almost no glue line. After it has cured, you will have a bond which is stronger than the wood itself. This product is available



Early attempt: a rather over restored 35b.

at most aeromodelling stores, and is not to be confused with regular grade superglue, which is far too thick for the job.

Make sure you get your clamping right before the glue goes in as you won't get a second chance. With cracks and dents fixed, you may still have gouges to contend with. Sometimes I will scavenge a piece



Painted filler repair on a Webley Mk3.



Airsporter screw surround filled and painted wood effect.

of wood with a similar grain, from the inside of the stock and inlet it carefully, but more often than not, I use car body filler to do the job.

This I will tint to the required shade, using artists oil colours....burnt umber, sienna etc. The filler will tolerate quite a bit of oil colour and still harden ok, but don't forget to wet the stock with thinners or similar, to show the wood as it will look under varnish or oil, otherwise you won't get a good colour match.

With the stock cleaned repaired and de-dented, it is time to move to the sanding phase. Here the stock will be given a brand new surface, defects of all kinds erased and the

original geometry of the stock will be re-established.

Sanding

Sanding is perhaps the most testing part of any wood restoration. I have seen more old stocks tragically damaged by poor and careless sanding than anything else.

The process involves far more than the wielding of some random piece of abrasive paper, with just the hope of a happy outcome, but no particular plan in mind. It lies somewhere between a science and an artform.

You can ruin crisp edges, create hollows where there should be flats, and remove wood you shouldn't

remove in a heartbeat – you just can't put it back again! Your work has to be done very carefully and in a fairly strict order. Think of the diagrams you sometimes see in the butcher's, where a cow is divided into various cuts; your stock is likewise divided into its constituent facets, which should be worked on in strict order, with abrasives of various grits, also in strict order.

Taking a basic beechwood stock like an Original 35, I would look to tidy up the forend grip rails first. Using a short length of dowel, slightly smaller in diameter than the rail (groove), I would sand a round nose on one end of similar profile to the end of the rail. Then, I would draw two parallel lines, along the top and bottom edges of the rail, to act as sanding guides.

This done, I would start sanding along the groove, with 120 to 150 grit, aiming to even up any irregularities, in depth and above all to ensure that the top and bottom edges of the rails ended up crisp and straight, and that the ends were round and even. Take care not to let the paper spread out, whilst sanding, or it will 'balloon' the rail, and create soft, unwanted radii, or both. When the rails look crisp straight, it is time to move on.

As I have said, the stock is comprised

of various facets. In CAD jargon these are called plains or flats, like the fore end sides of our 35. Curved plains like the cheekpiece, and butt; cylinders, such as the comb and underside of the butt and pistol grip, as well as the various radii and compound radii that link these facets together.

Having finished the grip rails I would take a wooden block about two inches wide and the length of a sheet of sandpaper, wrap half a sheet of 120 to 180 grit around it, depending on the roughness of



Basic sanding tools: Paper, block, rail tool and short block.

the stock. Then, carefully sanding along the length of the forend in a crosshatch fashion, I would work until the forend was absolutely flat and even along its length. You will notice at this stage that if properly done, your grip rails will look really straight and sharp.

I would repeat this process under the forend and then turn my attention to the major curved planes of the butt, cheekpiece and the reverse. I always attack the major plane surfaces first, sanding along the plane and then



Beginning and blocking the forend.



Blocking the cheekpiece.

criss crossing left and right to avoid creating flats and tramlines.

With these surfaces reinstated, it's time for the major radii, those between sides and underside of the forend, again sanding lengthways and crosshatch 120-180 grit, with the long block. After this, it's time to attack the cylinders of the comb and underside of the butt; same format, but be careful not to sand flats into these surfaces. It's very easy to leave them with 50p coin profiles.

Now move onto the smaller stuff, the compound radii of the forend, the pistol grip and the hollow radius under the cheekpiece. For this, I



Finished stock.

would take a half sheet of paper, once again 120-180, depending, fold it into three, and then carefully using palm and paper, clean and radius the forend cheeks and the pistolgrip,

which is one of the easier parts to do, then finally to the radius under the cheekpiece, which can be tricky as you have to create a nice even edge

along the cheekpiece, all the way round to the butt, whilst leaving a radius that blends evenly into the lower stock and butt.

To do this I often use paper wrapped a short length of broom handle. With this done satisfactorily, you will have re-established the basic geometry of the stock. All flats should be dead flat, all curved flats should be evenly curved in one plane



only, all cylinders straight, and evenly rounded, without any nasty flats.

The radiused junctions between major surfaces, should be straight smooth and even. Do not be tempted at this stage to apply the delicate radii to any edges, these come in the next stage: finish sanding.

In this process you will use finer papers, 180 to 320 grit and a slightly different technique to remove any flats that may remain; fine tune transitions between the different surfaces and remove scratches



Bad sanding wrecks a BSA Mercury S cheekpiece.



Facets marked out.

left by the coarser papers used previously, as well as creating the fine radii. Starting with 180 or 240, depending on how deep the residual sanding marks are, you would use the blocks as before, especially when near delicate edges like the grip rails, but as you move to finer papers, more of the work can be done with the half sheet folded into three, and the palm of your hand.

Great care must still be taken to avoid blurring the crisp edges, such as cheekpiece and grip rail transitions. The last paper I use on a varnish finished stock would be 320 grit, going over the whole piece to give it that final touch and to very carefully apply small even radii to the forend top, either side of the gun cylinder, and to the bottom of the pistol grip. If you are happy with the result of your labours, it's time to move on to the colouring stage.

Colouring and staining

A freshly repaired and sanded stock can be an uninspiring thing to look at, especially if it's beech. Fortunately there are ways to bring out the hidden character in the wood, using stains, and various

chemicals. The secret is to choose the colourant most suited to the wood in question.

Personally, I avoid using white spirit based stains (Ronseal etc) as primary stains. They make almost no impression on hardwoods like elm or walnut, but can be really ugly on beech.... soaking in deep and dark in places, but elsewhere, hardly at all, and giving the stock an uneven, blotchy appearance.

So with beech, I often wipe on a thinned coat of alcohol based stain, such as yew, teak or walnut which gives a nice even base colour. I then apply a second modifying coat of Ronseal type stain over the first.

creating the dreaded blotch effect.

Using different first and second coat colours will yield almost endless permutations, and some very pleasing effects can be found with



Krico refinished beech stock.



Anschütz finished with potassium permanganate and Oxalic acid.

yield excellent even results, but be careful; the varnish must be sprayed, and as each successive coat will darken the wood relatively slightly, the quest for the right shade may lead to the application of too much varnish, which will mask the grain, take ages to dry and generally look awful. Once stains are applied, they can only be removed with difficulty, so it is vital to proceed with caution. All experimentation should be carried out on a scrap stock, before starting on your pride and joy.

Walnut is often pretty enough to need only oiling or a coat of clear varnish, but if you are unlucky, and own a boring, featureless lump of wood with no grain or character, don't despair; there are tricks which may transform this uninspiring lump into a thing of modest beauty. Brushing on a strong solution of oxalic acid will give boring blond wood a warm orange brown hue, but if you don't like that, there is always potassium permanganate.

You mix the crystals with water. Put



A BSA Stutzen before and after improved stain and recut chequering.

The principle is that the alcohol stain partially seals the wood, and whilst subsequent coats of Ronseal type stain will mute and modify the bright base shade, they will be prevented from soaking in deep and



BSA Airsporter lightly varnished.

on some gloves and experiment with mixture strength on a scrap stock. As soon it is applied, with brush or rag, it will turn the stock bright purple. But don't panic – within a few moments the colour will have settled down, and if you are lucky your boring old blond will now have turned a rich chestnut brown, rather like a Palomino in colour, and showing grain that was invisible

Note: do not leave your brushes in this stuff, it will eat them. This treatment works often, but not always. Sometimes the wood will turn deep chocolate brown, showing no grain and looking awful, usually caused by too strong a mix. But don't worry, just give the stock a quick brush with oxalic acid, and hey presto! – the chocolate disappears, and you can start again with a weaker mix.

There are many other ways of colouring and finishing stocks, and for those of you that are interested in learning a little more about this subject, I can heartily recommend a read of *Gunstock finishing and care* by A. Donald Newell, published by Stackpole Books. It's long out of print, but can still be found online.

Finishing

Finally we come to the skin of the stock. For beech stocks, this must be varnish, for hardwood stocks such as elm, walnut etc, an oil finish is also an option. Over the years I have experimented with various

finishes; water-based varnishes, cellulose lacquers, 2K acrylic lacquers etc etc, but I have found

that for looks and durability nothing beats a quality oil-based polyurethane varnish. I use gloss or satin, depending on the original finish of the stock.



Practice sprayboard.

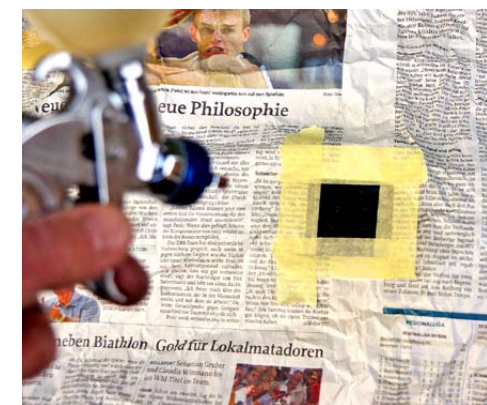
I sometimes tint the varnish with artists' colours, not only to achieve a desired colour, but also to tone down defects such as off-colour filler repairs. As mentioned above, for best results lacquer or varnish must be sprayed. Brushing is just plain inferior, as is the use of an aerosol.

A small used compressor kit – hose, connectors, regulator and spraygun can be had from Ebay for around £300. It might seem like a lot of money, but when you think of all the other jobs

you can do with it – car repair, fence and shed painting, etc, you'll soon see it as money well spent.

To spray varnish successfully you need to learn how to thin it to the correct viscosity. A starting point would be around 20% cellulose thinners, not white spirit. Your gun will have adjustments for air volume, spray fan width, and fluid volume. A good starting point is to set air volume and spray fan roughly halfway between max and min. Then set the trigger at closed/zero fluid. From this point open the trigger progressively until you are seeing a spray fan sufficient to wet the target, but not to drench it.

Trigger control is all important and only practice will help. For this I recommend using a thin sheet of melamine kitchen carcass backing to practice on. It is smooth, and will show up the width of your spray fan, and as it's non absorbent, varnish will run immediately if you apply too much in one pass. Practice on this until you are able to apply glossy, even coats without runs, then it's time to move on to a more complex shape like a scrap stock and practice



Spray lacquer.

on that until you feel confident of success on the real thing.

Now you are ready to spray, so find a well-lit spot, then decide which end of the stock, you are going to start and which end you are going to finish. Then I would insert a Phillips screwdriver tightly into one of the stock screw holes, and holding the stock by the screwdriver handle, in one hand, and with spray gun in the other, I would check that I could manoeuvre the stock sufficiently to get round all of it with the spray gun. Then, after a last check of all gun settings and that the stock is clean, dry and dust free, it's time to spray.

The first coat should be light and even, barely wet enough to show any gloss.....(If it appears thick and globular the varnish needs more thinners) when it has 'tacked off' it will act as a sort of sticky flypaper to hold the next, wetter coat. If you have got it right, two coats will often do. Many older airguns were lightly varnished, leaving the wood grain open. This I find quite attractive.

More recent guns, however, tended to wear thicker varnish and to replicate this style may require three or four coats. The important thing is not to hurry. Apply the first two coats, leave them to dry and then, if still unsure about the result... leave it! I have often found that the best results come by applying a couple of base coats, then leaving the thing for a few days to harden. You can

then pick it up, have a good look at it and decide whether it's fine as is, or whether it needs a light corrective rub with 320 grit, and more varnish.

Remember, when spraying varnish, less is more. It's an easy matter to rub down a dry looking stock and give it an extra coat, whereas if you apply too much varnish and it starts to run, it's often best just to take a white spirit soaked rag, wipe the lot off and start again. In addition, over varnished stocks look unnatural, especially on older guns.

If you are happy with the finish, put the stock somewhere warm to cure, avoiding direct sunlight initially as a hot sun can cause the wood to 'gas', and create bubbles under the surface. If the stock has just the odd run, leave it to harden. This may take some days, and then, carefully set about flattening it out, using 240 or 320 grit paper, a block, water and



Oil finished Diana 27 stock.

bathroom soap as a lubricant.

It is vital not to rub too much as you will then cut into the stained finish, and this will be impossible to hide. When you have erased the run, give just the area you have rubbed a further medium coat and set it aside to dry. With the varnish fully cured,

dust and insects can be rubbed out with an 800 grit wet and dry.

Dull finishes can be brought up with auto body cutting compound, and overly glossy finishes taken back a bit with 0000 wire wool. Finally, I always give the finished stock a coat of wax. Beeswax or a good clear car wax finishes the job.

Oil finishing

If the gun has a hardwood stock and was originally oil finished then it should be refinished in oil. Preparation is similar to varnish finishing, except that with an oil finish I generally go on past 320 grit, to give the stock a final rub with 400 grit. The work must be meticulous as with oil there is no layer of varnish to fill sanding scratches and mask minor defects.

After sanding is finished, wipe the stock with a damp sponge, and pass

a heat gun over it. This will raise thousands of tiny wood fibres... which you then smooth back with wire wool, before wet sponging again. You repeat this process until the stock remains smooth after drying.

There are countless ways to colour

walnut stocks, but many of them are specialised indeed, involving acids and blowtorches etc, so I won't go into that. For the most part an old walnut stock will look good enough in it's fresh, new sanded skin not to need staining. But if it does, potassium permanganate or oxalic acid will usually do the trick.

With the stock de-whiskered, it's time to open the oil bottle, read the instructions and get rubbing. To build up a good durable oil finish takes a lot of applications, time, elbow grease and patience, but a well applied finish looks fantastic and it certainly is worth the effort.

Chequering

If your stock has chequering on it, special care must be taken to prevent damage. Before sanding, the chequering should be carefully



Chequering recut.

masked off with double layers of tape. If the stock is dented or stained you must keep steam and solutions away from chequering. Solvents won't hurt – in fact, one of the best ways to clean grimy chequering is to use a toothbrush and liberal quantities of petrol or thinners.

Do this before applying oil or varnish as it will destroy both finishes.

Whether varnishing or oiling, keep the chequering masked up until all work is finished, then unmask and brush in a little thinned varnish or oil with a toothbrush and wipe off the excess.

Re-creating old logos

Some of these old guns sported the maker's or seller's logo in a stamped and died form, usually on the butt of the stock, and I have found it great fun to re-create them. I start by carefully photographing what remains of the logo... often no more than an indentation in the wood. I then take the image into Photoshop, and by playing about with levels, brightness, contrast and so on, it is possible to derive enough information to be able to identify fonts and re-create the original design.

This, I give to a local signmaker,



who using a fairly hi tech vinyl cutting machine, is able to make small batches of stencils for me. Here you see such a logo, on an old Millita, sold in London, by Le



Restoring the logo of an FLZ 'Original' V.



Refinished 8mm Gem and Diana 27.

Personne & Co (hence Lepco). Another, in the process of being applied is the logo of an FLZ "Original" V. I apply the colouring either with a marking pen, followed by clear laquer or by spraying just a coat of black. The technique is very effective as the meniscus created by the paint climbing up the edge of the stencil, gives the design a surprising indented look, just as though it had actually been stamped in.

I hope these ramblings may be of

to attempt gun stock restoration. When you've got the hang of it, you will find it great fun and enormously satisfying to see a new stock emerge from the old.

I have mentioned one or two chemicals in this article and though they are freely available, they must be treated with great care. Always wear rubber gloves when handling oxalic acid – it can be absorbed through the skin and is injurious to kidneys. Potassium

and turns skin a very dark brown. Thinners and sprayed varnish are highly inflammable and not good to breathe, so wear a mask at all times when mixing and spraying.

Potassium permanganate crystals, oxalic acid crystals, cellulose thinners, alcohol and white spirit stains, as well as oil-based polyurethane varnishes are all available at good restoration materials suppliers, as are quality wet and dry abrasive papers. ■



Tell, Millita and Lepco.



Minters.

Wonderful Weihrauchs

Collecting the top-of-the-line Weihrauch model HW55 holds a fascination for the collector, writes **Frank Korn**, because of the numerous changes made to the model in the half century in which it was sold. From the aluminium buttplated HW55M of the early 1950s to the juvenile HW55 Champ of the 1990s, every HW55 produced embodied Weihrauch's commitment to maintaining the quality of its flagship 'match springer'.

Why is collecting the HW55 so much fun? Because there were so many versions made. Starting in the early 1950s until the end of the 1990s and even 'old new stock' sold in the early 2000s, this model has an almost endless number of variations to find, so you have got to keep collecting – at least that's my excuse!

The model kept evolving during all these years, just like its stablemate the HW35, which is still being made at this moment.

Weihrauch started postwar airgun production in 1950, just like Walther.

As the Germans had been keen on shooting indoor competitions for many years and wanted to do so again after the War, the only rifles they were allowed to own were airguns (in those early years).

This is when the HW55 was made, as a direct competitor to the Walther LG51 and its successors.

The HW55 had a separate barrel lock to maintain the perfect rigidity between barrel and action. This was necessary because the diopter was mounted on the end of the action and not on the barrel as a normal rearsight, and avoided possible play between barrel and action.

Another advantage they had with

this barrel lock was the fact it is adjustable for wear, so even when a gun was used and abused as a club gun for years and years, it could still be as rigid as possible.

The early rifles were fixed to the stock with one screw underneath the cast iron trigger guard and two screws to the sides of the fore end. This one (a HW55S) has a beech stock and plain butt pad, originally made of horn.

The pre-Rekord trigger is mounted in a short trigger block and is one of the many variations in triggers before Weihrauch finally settled on the Perfekt and Rekord triggers in 1955.



Just as with the triggers and front sights, there were many diopter variations in the early years – but that is a whole different subject.

A slightly later model HW55S with a more sophisticated adjustable trigger and a front sight with a interchangeable insert and no more side screws in the forend shows the small improvements they made, step by step.



The HW55M models from that era had a walnut stock and an aluminium buttplate.

On this one, the stock was intended for side screws but was plugged up by the factory to use on a single bottom forend screw action. We can assume that in those days they used whatever was left in stock at



the factory, since materials were hard to come by.

This next one has a double trigger – an extra bonus, from a collecting point of view. It is known as a 'DST', meaning double set trigger, or in German 'mit stecher'. The rear

trigger pre-sets the front trigger, so it needs only a 'whisper' to fire.

Notice the long trigger block. The 'mit stecher' units were originally made for the Mauser,



K98 powder burner and were readily available, so they were

the HW55T.

The first models had a groove on each side of the fore end; later ones had chequered panels.

The other model introduced must



HW55SF.

have been made as a alternative for the customers with a smaller wallet. Since the barrel lock on the HW55 was a complicated (and costly) affair to build, they offered the HW55 without a barrel lock, which was much cheaper to build, making it appear the same as the HW50, but with the stock, trigger and sights of the 'normal' HW55.

These were called the HW55SF, HW55MF, and the HW55TF. The MF was available until the mid 1970s.

All HW55 'F' models are hard to find but the HW55TF DST, serial number 30397, with the early grooves in the



HW55MF.



HW55TF

adapted to the Rekord trigger format.

Also a few new models were introduced; the first being the Tyrolean stocked model, called



HW55TF DST.

forend must be the Holy Grail for a Weihrauch collector.

Although clearly an 'F' model, it is not marked on the breech block as such – just 'HW55T'.



This incorrect stamping happened a lot during the early years; sometimes they had a wrong model number like HW55TM – that should have been HW55MF – and other ones were not marked at all – not even as an HW55!

During the 1970s, the names were changed to: HW55SM, HW55MM, HW55MF, but strangely the Tyrolean version name remained the same: HW55T.

The HW55MM was the first one available (as an option) with a built-



HW55MM.



in rail to attach a sling or hand stop.

In the 1980s they added another version to the series and called it the HW55 Match, as can be seen in this Dutch brochure. Later in life it became known (in the USA) as the HW55CM.

By the 1990s the model HW55MM was dropped and only the SM, T and Match were advertised.

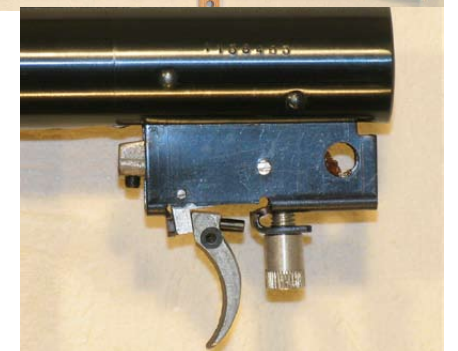
What Weihrauch did do, however, was introduce a juvenile version of the HW55 and called it the HWB Champ. This was a HW55 with a shorter barrel with barrel sleeve, and a stock designed for the younger shooter; a nice detail is the trigger blade, which could be moved for length of pull.

The above was superseded by the HW55 Champ and was the last new model of the HW55 Weihrauch to be made.

Production of the HW55 stopped in the late 1990s



because they were too expensive to build and the design had become obsolete, as spring piston rifles were 'a thing of the past' for serious match shooters. The future



HWB Champ (above) and its trigger, adjustable for pull.



HW55 Champ.



Webley goes Down Under

Barry Iacoppi spent his early years in England, before emigrating to New Zealand. Like many airgunners he fell in love with shooting when as a boy his father introduced him to a small Diana air rifle – after giving comprehensive safety instructions. He quickly graduated to a pre-War BSA and then put his first wage packets towards a fully-tricked-out Webley Mk3. That Webley and his father's BSA are treasured in his collection to this day, half a world away from his first home.

School holidays, August 1958. Dad takes me out into a remote part of my grandmother's garden in Chester-le-Street, County Durham. He has with him a British-made Diana Model 25 .177 air rifle. There then followed what felt like hours of lectures on gun safety and instruction on how to load and sight the said rifle. After an eternity, he handed me the rifle. I was 10 years' old and never before had I held such a wondrous treasure. In reality, it was a piece of poo.

Born with a lazy muscle in my right eye, I had to use my left eye to sight with. As a right hander this involved pushing my head over the top of the butt and looking very awkward indeed. But it worked. Dad put bit of a Senior Service packet under a

splinter on a rotting plank, took me back three yards and told me to try to hit it.

I just nicked the bottom edge, but I did hit it. The pellet stuck firm in the rotten plank giving a 10-year-old the false impression of extreme power. I was chuffed. I had just fired my first air rifle.

Later, I was to discover that this Model 25 was both inaccurate and inconsistent in the power it produced between shots – that ranged from weak to extremely weak. However, in my ignorance I thought it to be an engineering marvel and if I missed a target it was in my mind my fault and not this precision instrument.

Dad allowed me to carry the rifle

with him on a hunting expedition along the banks of the river Weir. I was not given a pellet on that first trip as he needed to be assured that the safety message had got home. Later he allowed me to take pot shots at the floating carcasses of rats he had dispatched. I was hooked on shooting, hunting and air rifles.

Summer holidays over, I reluctantly left my rifle with dad's at my grandmother's house and returned to London. Amongst my school mates I set myself up as the leading authority on guns of all types. To keep ahead of the field I read all I could on the subject.

There were no magazines dedicated to airguns but borrowed copies of *Guns Review* and *The Shooting Times* fed my thirst. Both BSA and Webley replied to a young man's letters with copies of their latest sales pamphlets that I read and re-read numerous times.

Come the following summer there was another safari to Durham. During our absence the Diana had disappeared. Never did find out exactly what happened to it but it was assumed that a family friend borrowed it and in disgust put it out of its misery and into a bin. My disappointment was short lived

when dad told me I could use his rifle. In my eyes, dad's rifle was the Holy Grail; a BSA Improved Model D that he had purchased from a junk shop near Alexandra Palace just after WWII.

The sight adjusting screw was missing and the head of the barley corn front sight had broken off. As a result, even with the rear sight depressed as far as it would go the rifle shot high – but straight and in my young eyes it could kill a water buffalo on the horizon.

Permission to use dad's air rifle was one thing but lifting it and holding it steady was a monumental task for a skinny 12-year-old. The solution was to team up with a local friend. Michael would carry the front end and me the rear.

Our target spotted, Michael would drop to one knee. I'd rest the barrel on his shoulder and take the shot. Hit or miss we would then change positions and continue the hunt. Back then – and to my shame – our living quarry was anything non-human that moved. Birds, rats, rabbits, insects and even fish. Most of our shooting was at tins and bottles on the local tip and a branch floating down the river was an interesting challenge.

A year or so later, I was big and strong enough to go solo and entered my golden age of air gun shooting. Every day of my summer holidays I was up at dawn and shooting. Five hundred pellets a day was no problem, other than getting dad to pay for them. My marksmanship improved to a peak I was never to surpass.

The old BSA performed well and was more than a match for any of the local lads' air rifles, power wise. More than once, a challenge went out and a stringent scientific contest would take place. I'd put a shot into a specific rusty old oil can and the challenger would do the same.

The damage was inspected by a neutral observer and a winner declared. The BSA never lost. All

the rifles it came up against were of later manufacture than the 1910 BSA. Most were poorly maintained British break barrels, but it would still beat the well-kept Meteors and Cadets.

Foreign-made air rifles were not thick on the ground in my social circle, but I do remember the Relum Tornados hitting the scene and being ignored by most. There were urban legends about these double spring air rifles that would send a pellet through one rabbit and kill another, but these were treated with great scepticism by all experienced shooters.

When I was 14 I was allowed to bring the BSA back to London and I was over the moon. I wrote to BSA and ordered a new spring as to my knowledge it had never been replaced since dad bought it. It arrived in a small cotton bag with a luggage label attached to the neck. It was a good inch longer than the old one and the small extra effort needed to now cock the rifle was obvious. I replaced the old washer with a new home made one and there was a significant increase in power.

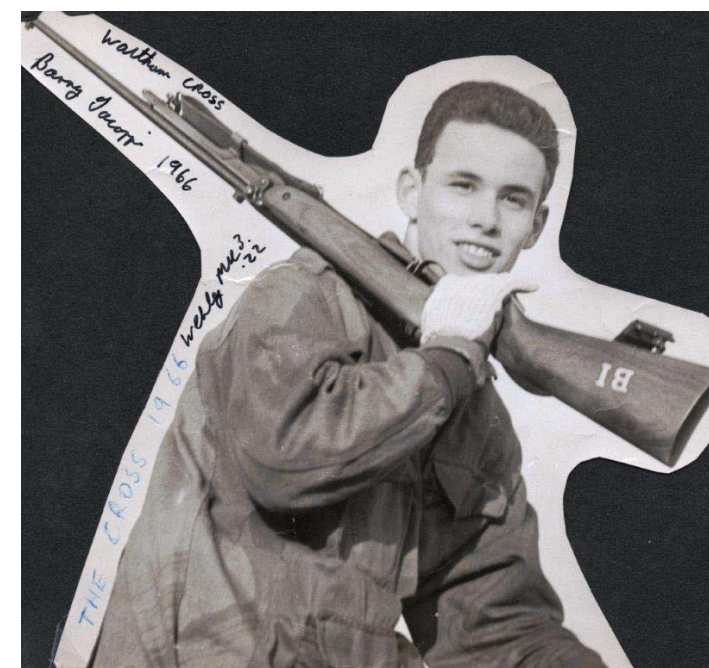
Yet again, I wrote to BSA and asked how I could attach a telescopic sight and sling to my rifle. The reader must remember that I was 14 years' old and had no concept of the collectable and intrinsic value of this 52-year-old rifle. Much to their credit, BSA wrote back advising that whilst it was possible, I should leave the old rifle as is and consider the purchase of a more modern rifle that already had

these features. I took their advice but the seed was sown regarding a replacement.

I had been reading all I could find on air rifles and I narrowed down my wish list to just two candidates. There were only two British manufacturers in the running and no foreign ones. Both Webley and BSA had their flagship models, so the contest was between the Webley MKIII and the BSA Airsporter. I had no personal experience with either, so when Uncle Frankie offered to lend me his MKIII for my summer safari of 1962, I jumped at it.

Not a pretty rifle, the Webley MKIII had a fit and finish that to my knowledge has yet to be surpassed by any air rifle. Whilst this attribute was not wasted on me, it was its performance that impressed me most. It was in .22 calibre and at the time everyone knew that .22 was the only caliber for serious hunting.

The BSA and Webley literature of the time told us so. Also tin cans jumped more when hit by a .22 than those hit by a .177, so it must be true. Or so I thought. Uncle Frankie's MKIII performed very well. I made a dent in the local rabbit, crow and pigeon population and to this day water rats on the river Weir talk in hushed tones about the summer of '62.





I was sold on the MKIII. I never ever got to handle an Airsporter before choosing the Webley. Both BSA and Webley claimed a muzzle velocity of 550fps. The lovely lines of the Airsporter (MKII) were diminished by the inferior finish and scope mounting slots. Unlike Uncle Frankie's, the latest MKIII had a neat plate that allowed a telescopic sight to be mounted. This, combined with the very successful hunting holiday, sold me on the MKIII.

I left school on the Friday before my 16th birthday. On the Monday I was working and earning £5 10 shillings a week. Mum deducted some board, but for the first time in my life I had some disposable income. The MKIII, at £23, was £1 more than the Airsporter but I did not want just a run of the mill MKIII. I'd studied the then current Parker Hale catalogue and found that Webley offered various extras that would make my choice special.

I saved very hard until the day came when, armed with the Parker Hale catalogue, I went to visit Mr Tunney at Tunney's sports shop in Turnpike Lane, London. He had off-the-rack MKIIIs available, but did not balk at my special order. He did a calculation and came up with a price, less a little discount. In agreement and money

handed over, he made a phone call and got what I remember to be an all-too-distant ETA.

An eternity later, Mr Tunney 'phoned to say that my rifle had arrived and straight after work I collected the sealed, and surprisingly short, heavy, package. My father feigned a

lack of interest as he stood over me when I unpacked it in the lounge. The action and stock were separate, hence the short package.

There were separate assembly instructions and in next to no time I was holding the rifle of my dreams. The factory had done well. My Mk111 was drilled and tapped for a fine P.H. aperture target sight and there were three sling swivel eyes – one affixed to the lever, one on the butt, and a third in the front of the trigger guard. Webley blueing is second to none and the woodwork appeared even better than that on the standard off-the-rack MKIIIs. The slings – yes, I ordered two – and the P.H. sight had yet to arrive, but this was not going to stop me trialing my new pride and joy.

It was winter and dark by the time I got home, but come the weekend I was up at first light and into the garden. My peer group and I knew nothing about running in a new air rifle and were enthusiastic oilers. The heavy Webley oil supplied with the rifle must have been better for it than the Singer sewing machine oil I had used until then, but I still worked under the assumption that if two drops were good, four drops were

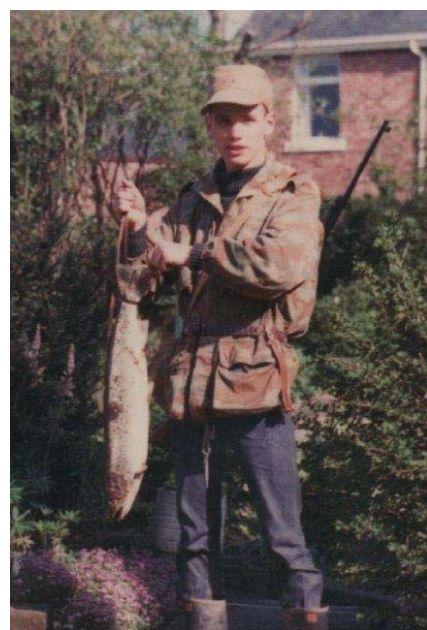
better.

First test was the standard "What will it do to a plank of wood?" test. I was impressed with the neat, deep hole it dug in the clothes prop, but even more so by the grey smoke that wafted out of the muzzle after each shot.

The Webley pellets of the time were crap. Often they had distorted skirts and a dull matt surface not apparent on other brands. At my level, few people concerned themselves with pellet weights but the logic of uniform shape was obvious, so I quickly made BSA my first choice of pellet. Pellets of all brands would smash their way through a baked bean can, and by that yardstick I was happy with the power.

As for accuracy I was a bit bewildered. My new shiny rifle did not appear as accurate as the old BSA. I took the full blame for this as I knew the new Parker Hale sight, when it arrived, would turn the Webley into a first class target/sniper rifle. Until then, I persevered and the groups tightened a little.

I should add that when shooting in the garden I always shot off hand, unsupported, as it was a well-known



A 6lb 14oz salmon shot in the shallows of the River Weir with the Webley MKIII. (At the time the biggest thing I'd ever shot).

fact that only girls and Arsenal fans shot from a rest. It took me a long time to realise what is now common knowledge: .22 is not as accurate as .177 and, when it comes to hunting, a hit with a .177 is a lot better than a near miss with .22.

When the Parker Hale sight and slings turned up the accuracy did improve a little but still not up there with the BSA. Two good friends were so impressed with my new Webley that they both went out and bought standard models on the same day. For the months that followed, every Sunday morning the three of us would send a hail of lead down the length of our garden at various targets. Cans and toy soldiers were very popular. My father would occasionally join us but always decline a shot with a MKIII.

I remember one day he appeared on the patio with a bamboo cane. During a ceasefire and with the rifles safely cleared, he walked forward and stuck the bamboo cane upright in the lawn. He then ordered me to go and get his old BSA.

Dad placed a .177 pellet on the top flat end of the cane, walked back six paces, loaded the BSA and took aim. On the second shot he hit the pellet and neither shot touched the cane. Then, with a sigh, he shrugged his shoulders and carried the rifle back into the house. Luck? Who knows? I do know it left the three of us impressed.

I hunted with the MKIII for the next eight years, but the bag was not what it should have been. I discovered that the target type Parker Hale sight was not well suited to low light dawn and dusk shooting. I tried a Greencat telescopic sight but simply could not get on with it.

I discovered shotguns and the MKIII got relegated to the rack and only unchained for casual plinking sessions in the garden. Nine years after I purchased the MKIII, I emigrated to New Zealand. A whole new world of firearms opened up to me but the old BSA and the



Webley MKIII came with me. Loved but ignored, they ended up at the back of a gun safe until I discovered yet again the joys of air rifles some years later.

New Zealand turned out to be a shooter's, hunter's, and collector's paradise. Thanks to our sensible firearm regulations, I quickly acquired a collection of rifles, from 'scoped and silenced' .22s through modern military semi-automatic and antique Martini Henry rifles. Just by showing my licence, that indicated I had been scrutinised and found to be a fit and proper person, I could walk away from the gun shop with almost any firearm I could afford.

The Webley and BSA that had followed me to New Zealand were again pushed to the back of the gun safe. My sons learnt to shoot with firearms and only once in a while did the air rifles get an airing. Then about eight years ago, renowned local air gun collector, Trevor Adams, gave me a Falke Mod 70 in exchange for an old Diana pistol I owned. I fell in love. Handsome, well made and accurate the Falke rekindled a flame.

Suddenly the joys and convenience of air gun shooting came flooding back. Plinking sessions in the garden happened almost weekly and often at the request of visitors.

Many summer nights were spent smashing chipped plates from the local Salvation Army shop or killing novelty toys from McDonalds. I sold some of my firearms and started collecting Falkes and British air guns. Most were from the period of my youth – guns I could not afford at the time.

I even acquired a BSA Airsporter MKI and with a little regret discovered that I preferred it to my Webley MKIII. My grandson now takes great pleasure in shooting balloons with 'his' Webley Junior pistol.



I now realise that air guns are not just a stage one goes through on the way to firearms but an end in themselves.

Making the Super-Grade

U J Backus, one of the foremost collectors of the Sheridan Super-Grade, keeper of the Sheridan Registry, and author of a comprehensive reference for the model, explains how this iconic rifle is worthy of such a name and manages to carry a mystique for collectors around the world – even those who would not ordinarily pay attention to an American pump-up.

What makes it a "Super-Grade"?

Simply stated, the premier Sheridan pneumatic rifle is a Super-Grade because of the design philosophy, skill and character of the founders, E.N. Wackerhagen and I.R. Kraus, of Sheridan Products Inc. Racine Wisconsin, USA.

To quote Mr. Wackerhagen: "*The idea started in 1945 as a sort of hobby and to give my son a better air rifle than anything then on the market. My close friend, Bob Kraus, who as you know, is a design engineer, as well as an excellent amateur gunsmith, designed and made the first Sheridan by hand.*"

It out-performed and out-looked every air rifle by such a wide margin that everyone who saw and shot it wanted one."

Built for a purpose... not just made to sell

I had no knowledge of the Sheridan name when my interest in collecting vintage air rifles was inspired by a friend who had brought me an old Benjamin in need of repair. It was the Benjamin and Daisy air rifles that I remembered from my youth. I already had a few Daisy BB guns and I began to search the classifieds and auctions to acquire some Benjamin's. In the process I also

acquired a few Crosman's. Then, one day, my friend shows up with an air rifle I had never seen before. It was a C-Series Blue Streak. At first it did not appeal to me, but after handling it and shooting it I was amazed by the quality and performance. As a result, my attention turned to the Sheridan products.

Part of the fun in collecting is learning more about the item which one is interested in. I found a wealth of information about Sheridan on the various on-line airgun forums and in the Ron Elbe book, *Know Your SHERIDAN Rifles & Pistols*. Equipped with a good knowledge base, I



began to build a collection of Blue Streak and Silver Streak rifles. While searching for these models I would seldom come across a Model A. I knew they were somewhat rare and, from what I had read on the forums, parts were scarce and repair was difficult. Also, the prices they sold for were high. It would be hard to justify having a high price 'wall hanger' so I was reluctant to purchase one.

Enter my friend again. He picked up a functional Model A for a good price and brought it out to show me. Now that I was able to see one up close and handle it, I just had to have one too. Even if it would be a 'wall hanger' the fine workmanship

and aesthetics of this rifle is worth the price. I had read that the Model A was "the finest American pneumatic rifle ever made" and now I believed it! There were no short cuts taken in the design and build of this rifle.

Since then I have had the

opportunity to own and do repairs on many Super-Grades. Every time I handle one I experience the same feeling that I did when I handled that first one. Additionally, the thought of the Super-Grade being an expensive 'wall hanger' has long been put to rest. Although the valve unit is not easy to repair, it is so well





Valve unit components

designed and made of such high quality materials that, even after 60 plus years, many are still working. Valves that have developed leaks can often be brought back to peak performance with a simple oil wash. The designers outline this procedure, along with much more valuable information, in the owners Hand Book.

In my continuing research I have uncovered stories that speak to the character of the Sheridan founders and employees. One such story is from a long time owner of an early Super-Grade. The 87 year old gentleman recalls when he was 20 years old coming home to Racine, having survived WWII and two cases of meningitis. He went to work for a landscape & lawn care company. Mr. Ed Wackerhagen was one of the company's clients. He and Mr.W would often talk about the War and shooting.

He told Mr.W that he had a Benjamin pellet rifle that he liked to shoot often. One day Mr.W invited him to visit the Sheridan plant on 13th St. After a tour of the plant, Mr.W took him to his office. Displayed on the wall behind Mr.W's desk was a Super-Grade rifle. After some talk about Sheridan, Mr.W took the Super-Grade off the wall and gave it to him for his service to his

country. For me, this story illustrates what a great and caring guy Mr.W was. One can sense this character when handling a Super-Grade.

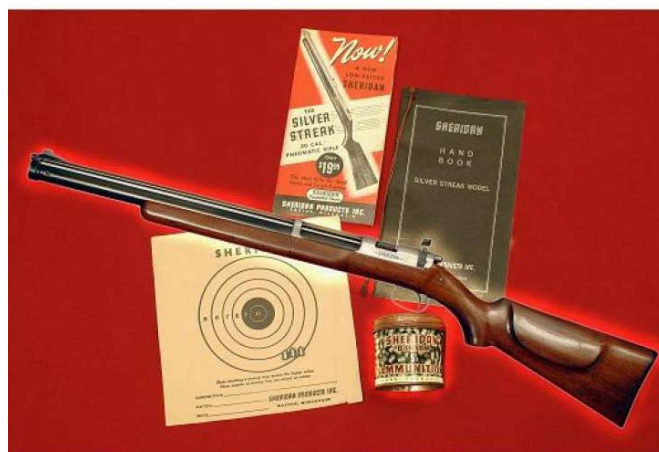
My airgun collection today consists mostly of Sheridan products, of which the Model A is truly deserving of the name "Super-Grade". I have owned and worked on many of the pneumatic rifles intended to compete with the Super-Grade and, well, let's just say none of them have given me the same impression; not even nearly so.

Sheridan advertisements often showed a target with the bulls-eye shot out, and a pine board illustrating pellet penetration with different number of pumps. These were representative of accuracy and controlled power. In my own experience, I have fired hundreds of rounds through Super-Grade rifles and the results are as advertised by Sheridan. Muzzle

velocity of 700 fps is obtainable with the recommended maximum of 8 pumps. Accuracy is impressive.

As described by a fellow collector: "The Super-Grade delivers a shooting experience that rivals the best; accurate, reasonably powerful, a

SHERIDAN Classic American Air Rifles



A comprehensive reference by UJ Backus

joy to hold and shoot. The whole experience of shooting one of these is unique and filled with a mix of nostalgia and performance. Even though it is a terrific shooter, it is also a memento, a bragging right and a source of pride to its owner; one of the crown jewels of any serious air gun collection."

And that, my friends, is what makes the Sheridan Model A pneumatic rifle a "Super-Grade"; even more so today than when it was first introduced.

The Sheridan Registry is at <http://ujays.net/sheridan.html>



LP53: early variations

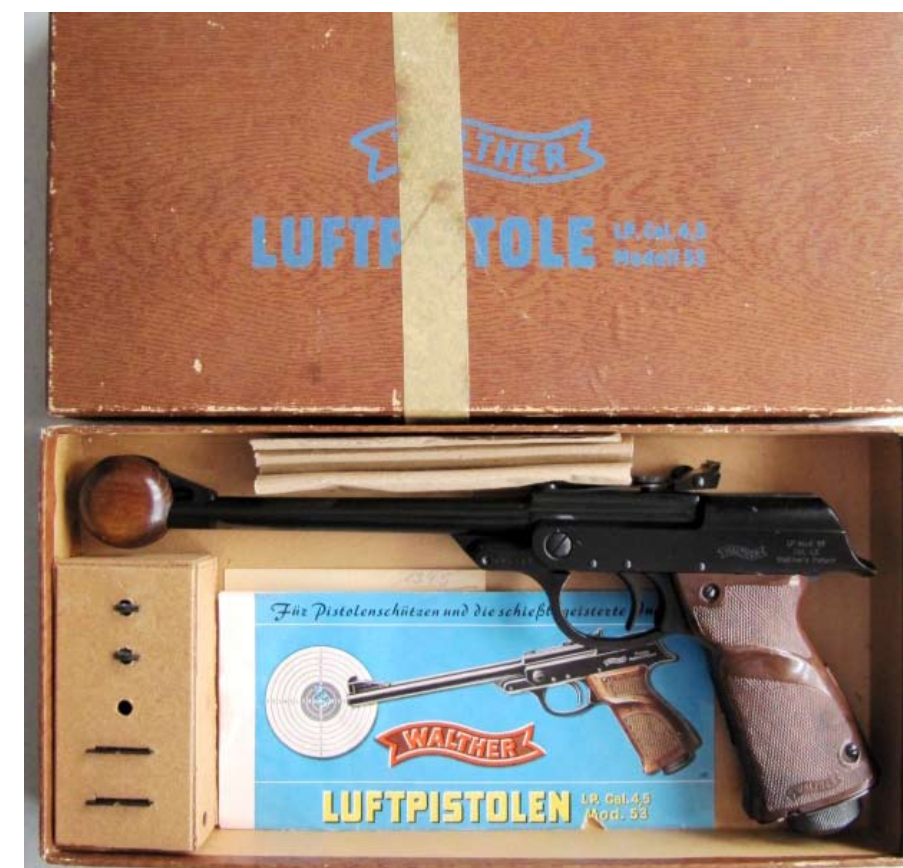
Keen-eyed observer of evolutionary changes in production airguns, **Leonard Joe**, looks at the first examples of the Walther LP53, which later became famous as the air pistol accidentally used to advertise the Bond movie *From Russia With Love*. Using early examples from his own collection, he charts the progress made and casts doubt on the existence of the fabled '850' – the batch of pistols supposedly designated "LP52".

The Walther LP53 air pistol has been a source of fascination to me for a great many years. Aside from its intrinsic value as a finely crafted vintage air pistol, and it's generally appealing aesthetics, the earliest of these guns have held some degree of mystique for decades, and in later years, even reached something of a celebrity status by its appearance in early James Bond movie promotions.

Over the course of many years, I developed a database of serial numbers, features and photographs in an attempt to trace the engineering changes made to these guns during their period of manufacture. Information was sourced from my own collection, fellow collectors, guns brought to me for repairs, online acquaintances, online auctions or classified ads, and anywhere else that specific details could be obtained. For far too long, information on the very early serial numbered guns was lacking, but I was determined that there had to be some of these early guns out there, and I enlisted the assistance of anyone willing to help, in an attempt to locate some appropriate specimens.

What exactly is the significance of these early LP53s? As most collectors are aware, for many decades

now, there has been a great deal of uncertainty surrounding the "first 850" of these pistols produced,



SN 001345 in its original box.

which were rumoured to have been designated "LP52". Despite some very detailed accounts describing the LP52 over the years, a verifiable source of reference for this information was never stated, nor any form of tangible evidence provided as proof – not so much as a single photograph. Additionally, correspondence received by me, directly from the Carl Walther historian, stated quite conclusively that "Walther did not produce an LP52". Thus, the general consensus among serious collectors worldwide was that the LP52 was a myth.

Based upon information obtained directly from Walther, production serial numbering for the LP53 reportedly began at SN 001040. Therefore, the first 850 guns would fall within the range of SN 001040 through SN 001890. Searching for specimens of these early guns that fell within this range was proving pretty much futile, until early 2011, when SN 001838 came to light. Then, early in 2012, SN 001345 surfaced, and SN 001772 made its appearance later that same year.

In December of 2013, a big surprise came in the form of SN 001745 – a gun resembling an LP53 in every detail, but bearing the designation LP52. Needless to say, this gun has initiated a great deal of discussion, and speculation, and its origin will doubtless remain somewhat mysterious pending further research. Despite the difference in model designation, I have decided to include this gun among the other early serial numbered LP53 pistols as a point of reference. Finally, in the fall of 2014, the earliest serial number known came to my attention, in the form of SN 001274.



Early box (left), late box (right).

The following observations are the result of my hands-on examination of SN 001345, which resides in my personal collection. Comparisons to the other early guns was done through the use of detailed, high resolution photographs and direct correspondence with their respective owners.

I shall begin with some background information on SN 001345. It was in January of 2012, that a collector friend of mine had spotted the gun on a US auction site, and not only sent me a "heads up", but kindly assisted me in procuring this exceptionally well preserved specimen, in its original box, with all the sight inserts, the cocking knob, the factory test target, and the owner's pamphlet (printed in German). Sadly, the original cleaning rod was missing, and the original early grips had been broken in the area of the upper grip screw. The damaged grips were replaced with a set of later grip panels that I had as spares to make the gun look more presentable. The original grips have been retained for reasons which will be explained later in the article.

The very first thing that I noticed was that this early Walther LP53 box was very different dimensionally from anything that I had seen to date. The box measures 349 mm wide by 180 mm deep by only 47 mm high. The accessory shelf for the

sight inserts inside the box measures 38 mm wide by 115 mm deep by 34 mm high.

Contrast these dimensions to the box most commonly seen for these pistols, at 345 mm wide by 170 mm deep by 58 mm high, with the accessory shelf measuring 52 mm wide by 117 mm deep by 46 mm high.

As I began to examine the gun a surprising number of differences compared to later guns are revealed. I have decided to break down the presentation of these differing details by those noted on the frame of the gun, and then those seen on the barrel and sights.

Comparing the Early and Later Frames

Markings

The first thing that becomes immediately obvious on SN 001345 is that the markings on the side of the receiver are very different from the later guns. The markings appear to have been machined into the frame, presumably with the use of a pantograph machine – the lettering as well as the Walther banner logo all have rounded corners, which would indicate that the lettering was cut using a round, flat bottomed cutter. Careful examination with a jeweler's loupe reveals minute swirl patterns all along the lettering which confirms the use of a rotating cutter. Another



Machined (top two pics) and stamped markings (bottom).

difference in the markings is the size of the Walther Banner logo. On the early guns, the logo is larger than that seen on the later guns – the early guns having a 20mm wide banner, as opposed to the late guns with a 16 mm wide banner. These machined markings are consistent with those found on SN 001274, SN 001772, and SN 001838.

In my examination of high resolution photos of SN 001745 however, an interesting anomaly is noted. The markings on that gun appear, in my opinion, to be stamped. Interestingly, the Walther logo banner is the same 20 mm width as on the early guns with the machined markings, and



Early frame (top), later frame (bottom).

not the smaller dimension as seen on the later stamped guns. This anomaly opens the door to several possibilities for speculation with regard to the LP52 marked gun.

Upper Rear Grip Area

The point on the frame, where the upper rear of the grip panels contact the frame, has a stepped treatment on SN 001345. This detail is also noted on both SN 001274 and SN 001745.

to be exact – the early guns having a depth of 3.1 mm, while the later guns have a step of 4.5 mm. Thus, the early grip frame measures 44.6 mm front to back, at the tip of the backstrap step, while the later guns measure 46 mm at the same point.

Consequently, the early grips and the later grips are not fully interchangeable, and as can be seen, leave a noticeable step when the early frame is fitted with later model replacement grips. Inversely, the early grips will not fit the later grip frame without modification to the grip panels.



Late grips fitted to early frame results in a visible step at the backstrap.

Grip Panels

As alluded to in the above paragraphs, the early grip panels that came on SN 001345 are different from the later grip panels. Externally, they appear identical, but on the underside, is where the similarity ends. The upper rear corner of the grips is flat where they contact the frame, with no relief angle as seen on later grips, to blend in with the curvature of the frame at that point. As well, the portion of the grip that fits into the backstrap notch is different – both in width, and the treatment of the point where it seats at the backstrap step.

On the early grips, this top edge is squared off with a very small radius, whereas, on the later grips, this edge has a large radius. The left hand grip, with its modest thumb ramp, is completely solid on the early grip found on SN 001345 – there is no hollow at the thumb ramp area as seen on later grips. These are the first and only examples that I have ever seen of this very early grip set.

By SN 001772 however, this stepped area is simply blended in with the contour of the underside of the frame extension. This change is carried through on all subsequent models. The later grips are appropriately modified to fit this change in the frame treatment at this point.

Backstrap Width

Turning our attention now to the backstrap of the gun, it can be seen that there is a distinct difference in the depth of the step – 1.4 mm



Early frame (top), later frame (bottom).



Early grip (left), late grip (right).

On SN 001274, the grips had broken, and were replaced with custom made wood grips, but the owner recollects them being similar to those described above.

From the examination of high resolution photos of the grips found on SN 001745, it is now apparent that there were two variants of the early grips. The key areas of note are identical to those described above, with the exception that a hollow behind the thumb ramp is now evident.

One unfortunate property of these early grips that deserves mention is that the plastic used in their manufacture seems to have aged poorly. Regardless of how well preserved the rest of the gun may be, as in the case of SN 001345, the grips are broken. This was originally thought to have been due to careless handling at some point in time, but in the case of SN 001345, these early grips continued to crack and crumble, even after having been removed from the gun, placed in a loose fitting plastic bag, and stored in the box for safe keeping.

Two pieces had broken away, and several cracks had formed that were not there two years ago when I placed the grips in that plastic bag. The owner of SN 001745 has observed this same phenomenon – the grips apparently self-destructing



as they sit in storage. In the case of SN 001274, the original grips were broken, and glued in numerous places long ago, which prompted their replacement by a set of custom made wood grips.

By SN 001772, the change to the later style frame would also introduce the later style grips, which appear to have remained unchanged for the balance of the period of manufacture of the guns. The composition of the plastic used to manufacture the later style grips was obviously vastly improved, with no apparent age related deterioration being noted on the very early guns currently known that utilize the later grips.

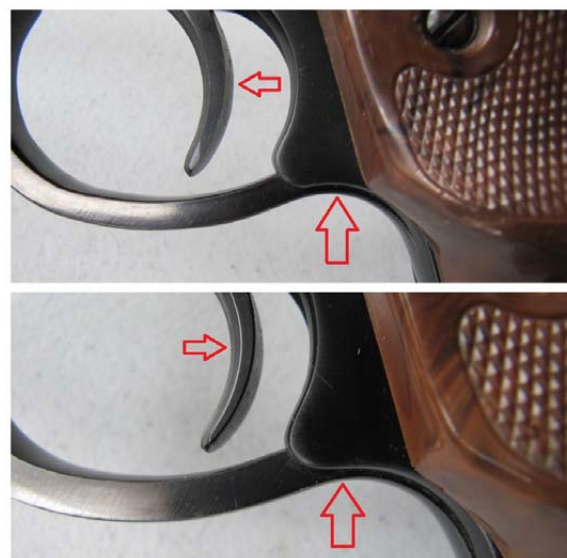
Trigger & Trigger Area

While the trigger axis pin locations are identical in both early and late frames, the trigger on SN 001345 sits further forward than later guns. This forward location of the trigger is also noted on SN 001274 and SN 001745. On these three early guns, measuring from the back of the trigger to the front of the frame, this distance varies between approximately 9.0 mm and 10.5

mm. By contrast, measurements taken at the very same point on later guns, varies from 6.0 mm, to 7.5 mm.

Could this disparity in the trigger position between the early and late frames suggest the possibility of a difference in trigger geometry in these earliest guns? Obviously, the only way to be absolutely certain would be to remove the trigger components from one of each representative frame type, and compare the triggers to one another. While that may seem simple enough, as anyone that has ever had to re-install the trigger assembly into one of these guns will attest, the job is tedious, and can be quite frustrating.

On the early triggers, a combination of as many as eight very tiny springs, spacers, and washers have to be assembled to the trigger on a slave pin, before inserting the whole assembly into the narrow trigger slot in the frame, and then maintain all in position while installing the proper axis pin, and driving the slave pin out in the process. Not a pleasant task when it absolutely has to be done in the course of a necessary repair, and is adequate disincentive to tackling such a job on a pristine, fully functioning gun such as SN 001345, just for the sake of curiosity.



Early trigger position and downturned frame treatment (top), later trigger position and no downturn to frame (bottom).

As well, where the trigger guard/cocking lever exits the frame cutout on SN 001345, there is a noticeable downturn in the curvature of the frame edges, remaining pretty much parallel with the curve of the trigger guard/cocking lever. I had initially believed that this was a feature exclusive to the early frames, however, recent new evidence, in the form of two other early frame guns lacking this downturn, indicated otherwise. (SN 001274 and SN 001745)

This new development prompted a further, carefully focused study of my LP53 database, which revealed that while the downturned frame edge can be found on later guns, it occurs so very infrequently as compared to those lacking the downturn, that this subtle detail was easily missed, until specifically sought out.

Mainspring End Cap

On SN 001345, the rivet head that retains the mainspring guide to the end cap is set into a depression stamped into the cap. The rivet head is also of a smaller diameter than is usually seen on the later guns. This is consistent with the end cap found on SN 001274.



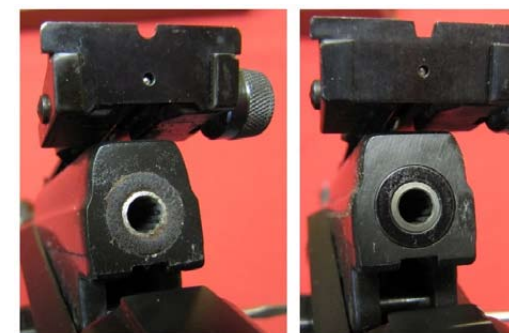
Early gun (top), late gun (bottom)

By S/N 001745 and later guns, the late style, flat faced end cap is already in use.

Comparing the Early and Later Barrels and Sights

Breech Seal

Upon breaking the barrel on SN 001345, I was surprised to find a leather breech seal. I had read in



Leather seal (left), synthetic seal (right)

Manfred Kirsten's book, Walther – A German Legend, that the earliest LP53 pistols were originally equipped with leather breech seals, but this just didn't make sense to me, because the Walther air rifles, from the LG51 on had utilized synthetic breech seals, so why would they fit a leather seal to the early LP53? I

guess we will never really know the answer to this, but it certainly is an interesting feature of this particular early gun. While the possibility exists that the breech seal may have been replaced at some point in time, this would in my opinion, seem unlikely due to the fact that the gun appears to have been very little used.

By contrast, SN 001274 is equipped with a synthetic breech seal. Again, the possibility exists that the breech seal in this gun may

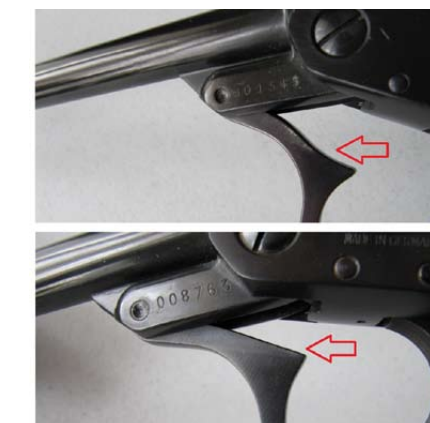
have been replaced at some point in time, and upgraded to a synthetic seal in the process. Obviously, more of these very early guns will have to be examined to see if a pattern emerges with regard to the leather breech seals.

By S/N 001745, and all subsequent LP53s that I have examined, the usual synthetic breech seal is present.

Trigger Guard/Cocking Lever

On SN 001345, the trigger guard/cocking lever has a curved profile on its upper edge. Initially, I had thought that this curved profile was necessary to compensate for the difference in trigger position on this early gun, to allow the trigger to clear the cocking lever during the cocking procedure. The trigger guard/cocking levers found on SN 001274 and SN 001745 disproved that theory, and prompted me to look into these two trigger guard/cocking lever variants in greater detail.

After studying the data provided by the owners of SN 001274 and SN 001745 of both the trigger to frame dimensions, and measurements of the respective cocking levers, it would seem that the curved cocking lever presents something of an optical illusion when viewed, appearing as though there is a great deal more clearance than that offered by the lever with the straight upper edge. This is not the case. There is adequate clearance provided by the



Curved edge lever (top), straight edge lever (bottom)

straight upper edge lever, even for the forward position of the trigger on these guns with the early frames.

Thus, it would appear that the two different variants of the trigger guard/cocking lever were used concurrently very early on in production. The reason for the two designs is unclear, but a substantial number of these curved upper edge levers were made, since they are seen on LP53 pistols as late as SN 007xxx.

Use of the straight edged levers carried through until the cessation of production of the gun.

Muzzle Treatment

Moving now to the muzzle of the gun, we find a very different treatment of the alloy shroud over the steel barrel liner on SN 001345. The steel liner ends just slightly proud of the shroud, is rounded slightly to blend with the curvature of the shroud at the muzzle, and the exposed face of the steel liner has a smooth, shiny finish. The muzzle treatment found on SN 001274 is identical. Oddly, there is also one gun in my LP53 database in the SN 0019xx range that has this same muzzle treatment, bringing the count to only three guns currently known with this particular feature.

By SN 001745 and later guns, (with the exception noted above) the steel barrel extends about 2 mm beyond the end of the alloy shroud, with the leading edge having only a very small chamfer on both the inside and outside diameters. This short, exposed section of the barrel at the muzzle is



Early gun (top), late gun (bottom)

unfinished – neither polished nor blued.

The front sight, the sight elements, and the sight element retaining screws on the early guns are identical to those found on the later guns.

Rear Sight

The rear sight, at first glance appears similar to later units, but upon closer examination, reveals that the interchangeable inserts are different from those normally seen. The insert for the early rear sight measures 26.9 mm wide by



Early insert (left), late insert (right)

10.8 mm high, with a cut away section at the bottom. The ears that support the insert at either end are 3.4 mm high. These early rear sight blades are present on SN 001274 through SN 001838.

On the later guns, the rear sight inserts measure 26.9 mm wide by 9.8 mm high, with supporting ears being 2.4 mm high.

Export Markings

Currently, the earliest known occurrence of an export mark is to be found on SN 001274. Located just behind the barrel pivot screw, on the left hand side of the frame, the words "MADE IN GERMANY"



SN 001274 – earliest known serial number, and earliest known occurrence of an export mark. (Picture courtesy of David Preston)

are stamped. Neither of the other two guns with the early frames (SN 001345 and SN 001745) have any form of export markings, and even on guns with the later frames, the next incidence of an export marking in my database at present, does not occur until SN 0023xx.

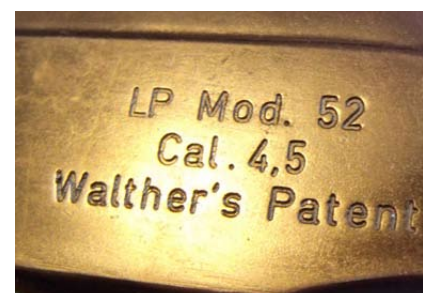
Conclusion

Very clearly, both SN 001274 and SN 001345 exhibit numerous distinctive features that were subsequently changed in later iterations, and obviously, some changes occurred very early on, as noted by my references to SN 001745, SN 001772, and SN 001838. It is apparent that the examination of this group of very early guns serves to dispel at least a portion of the historical inaccuracy with regard to the significance, or perhaps the lack thereof, of the "first 850" guns. I remain hopeful that as more of these early guns continue to come to light, that many remaining questions with regard to these earliest known Walther LP53 pistols, as well as the LP52 pistol, will eventually be answered.

© Leonard Joe

LP52: Walther's first air pistol?

A Walther air pistol with LP52 markings appeared for sale in 2013. It doesn't seem to have been tampered with. Walther itself, which kept no records of early production, is doubtful it's genuine. But collectors and historians suspect it probably is.



The FWB 65: best of breed

Danny Garvin explains why he believes this recent German match pistol – it was made until the 1990s – is collectable, and gives some tips on how to obtain one if you agree with the proposition.

OK, I admit it: I'm a Feinwerkbau 65 collector. I realise that anyone who confesses to collecting the FWB 65 spring match pistol risks being shouted down by those people who scorn collectors who don't regularly shoot each gun in their collection; perhaps all the more so because if ever there was an air pistol made for shooting frequently, this is it.

I collect them in the sense that I have four – one each of the main 65 patterns and another of the early pattern, which was one of the first 200 to be made. Although different to each other, their similarities are much greater than their differences.

The consistency of design is truly remarkable for a pistol that was sold for so many years. Their piston and breech seals, along with other key parts, are interchangeable between the first model 65 produced – serial number 1040 in November, 1965 – and the last one, 145,312 pistols later, in 1998.



Short and long barrelled FWB 65s

To my mind – and this is why I think they are collectable – the FWB 65 (not forgetting its stablemates the models 80 and 90) was the finest spring air pistol ever made.

Its side lever cocking, semi-recoilless

action – a miniaturised version of the FWB 150 rifle, precursor of the ubiquitous 300S – with its fixed barrel, and the cylinder riding a few millimetres backwards on rails with each shot, is a pleasure to shoot.

You can see where each pellet strikes, the sight picture largely undisturbed by the effect of recoil. The trigger is sublime – light, crisp and predictable. Velocity is relatively high and extremely consistent; manufacturing quality control was impeccable; and the materials used were never less than the best available. Even a fairly poor shot like me can achieve good results with this tool.

As a collector, the pride in ownership is considerable, not just because it is a product of Feinwerkbau GmbH, with all the prestige that maker's name carries. But also because for years it was the world's premier target air pistol, which reigned supreme over the best pistols leading manufacturers such as Walther and Anschütz



Three models of FWB 65: early, late, mid (top to bottom)

could devise – and with the help of some impressive marksmen and women, it won all the competitions and medals going.

When I was a youthful airgunner in the early 1980s, a keen plinker, collector and – when I had the chance – a hunter, the FWB 65 was the current leading match pistol. It was expensive and far out of reach. In any case, if I'd had the money at the time, I would certainly have bought a vintage airgun.

To look at, it does not grab the collector as especially beautiful. It lacks the highly-

polished external refinement of, say, an all-steel Webley Senior, or the weird wonderfulness of a Westley Richards 'Highest Possible', although the FWB does have a blued steel barrel and a blued steel end piece at the rear of its cast aluminium frame.

But its collectability lies principally in its perfection as a self-contained engine of achievement, in the durability of its component parts, and in the fact that it is no longer made.

There can't have been many manufactured goods made for European consumers at the time that were built to last indefinitely, or at least had such a quality as a by-product of manufacture. While other airgun manufacturers increasingly bought into the understandable, but

wasteful and often cynical, idea of built-in obsolescence, Feinwerkbau made the 65 with the stated aim that it should perform flawlessly across decades and for tens or hundreds of thousands of shots.

One back-of-an-envelope calculation about the 65's lifespan leads to a truly gobsmacking statistic – arrived at conservatively. If approximately two thirds of owners (100,000) have got through 20 tins' worth of pellets (10,000) in the years they have owned their 65, that amounts to an astonishing global total of one billion shots fired.

An air pistol that was still in production just 15 years ago might not be an obvious choice for a collectable. But for the reasons given above, this is not as strange as it seems. If you agree, there are various ways to proceed.

One is to obtain a 65 for occasional use, with an eye to it as an appreciating asset whose value, for the reasons given above, is unlikely to fall despite the large numbers made. They are plentiful on the second hand market, and not particularly expensive.

Another would be to try to find one that is in fine, little used condition, which is an increasingly difficult prospect as these workhorse pistols tend to be sold off by clubs that have finally moved wholesale to PCPs.



This exploded diagram of the FWB 65 shows the complexity of its match trigger and recoilless mechanism

Design evolution

Essential information for the collector is that there were three main stages in the development of the FWB65, reached incrementally, although the most significant design changes were incorporated into the model 80 – which had a reworked trigger, multi-adjustable trigger blade, and removeable barrel weights, plus other lesser changes, and the model 90 – which had a battery-powered electronic trigger. The first pattern of 65 had chequered 'sporter' grips, a fixed element front sight, a small sprung rear sight and a solid blued steel trigger.

The second pattern 65 had replaceable front sight elements and a fixed rearsight with notch adjustable for width. The trigger blade was pressed steel. The third pattern, arrived at after 100,000 or so pistols had been built, had a longer 'tang' overhanging the web of the hand and a slightly wider rearsight.

All three patterns of 65 had a facility that allowed the user to 'suspend' the anti-recoil device, to simulate shooting a firearm, and another to switch the trigger pull from 500g to 1360g in a single adjustment. Extra high front sight elements were included to allow for the higher point of impact that recoil produced.

When the model 80 came out in

1977, it had twin concentric springs, which FWB promised would give "greater durability". Models 65 from this point also had two springs. From quite early on, anatomical grips were available. Sporter grips went from hand chequered to stippled walnut, and later in its lifespan, when Feinwerkbau tried to introduce an 'economy' version of the 65, grips were also made in black plastic.

The above list of differences is not exhaustive and when you consider they spanned more than 30 years, they are trivial. The essential form of this pistol was constant throughout.

In the 1970s and '80s, Robert Beeman in the US built on the pioneering efforts of Robert Law and successfully marketed Feinwerkbau and other match air rifles and pistols as precision objects of desire to well-off American consumers. They helped widen perceptions of airguns from cheaply-made toys and youth-oriented BB guns, to luxury items for discerning adults. However, there was already



Types of rear sight: mid, late and early (left to right)

a long tradition in the US of finely-crafted adult airguns, dating back into the nineteenth century and earlier.

At some point, Beeman started to import the 'Junior' short-barrelled version of the FWB 65, which had sold only in small numbers in Germany, although the pistol performed well. He named it the 'Mk2', a label that stuck, although it was never an official FWB designation. These 'shorties' – with barrels 35mm shorter than usual – were known as the 65K, or 'kurz' (short) in Germany. They are scarce today in Europe, although more frequently encountered in the US.

I realise that the FWB spring pistols are not every collector's cup of tea and that they were made too recently for many collectors to be interested. But if you are interested in acquiring one, a steady stream of these pistols comes onto the German market via eGun.de, the auction website, and there seems to be a continuing demand for them, since reasonable examples rarely sell for below €200 (£156). One, advertised on eGun as having been only test fired at the factory, sold for €755 last year – a sum that would buy you some pretty nice vintage airguns.

If you do decide to seek out an FWB 65, you are unlikely to be disappointed. For shooting they are superb, and so rugged that if you want to consider it both a collectable and a shooter, you won't fear putting a few pellets through it from time to time. In fact, when you do, you're unlikely to want to put it down.



An early polystyrene boxed example

Silicone solution

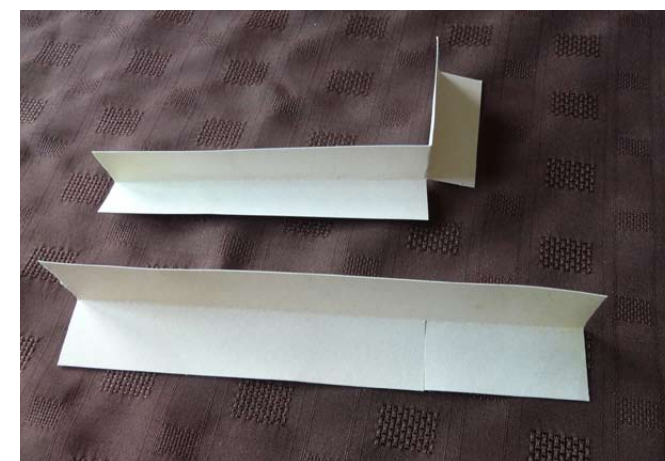
Andy Lake describes how he tackled moulding of some rare and hard to find airgun parts, such as the buttplate of a Falke air rifle, using off-the-shelf materials and basic equipment. The results were very impressive, as this pictorial feature shows.

I have long been interested in air gun collecting, and following a conversation recently with another collector about of all things a cracked Falke buttplate, I decided to give basic casting, using silicone rubber a go, to see if I could come up with a serviceable replacement.

This photo essay gives you an idea of how I got on, and hopefully will inspire you to have a play for yourselves.

The parts I selected for my first experiments were a rifle buttplate from a Falke 80 in my collection, and a set of hand grips from a slant

grip Webley Mk1 pistol. These were selected as they both had a flat side, so they could be replicated using the simplest kind of mould design, and being black meant that minimum complicated resin colouration was required.



First of all, having selected some heavy card, to use as a base, I cut some thinner card to make the retaining walls of the mould. This card was folded lengthways, and cut so that each piece formed both a side and an end of the wall.

Blue tack was selected as a means of sticking

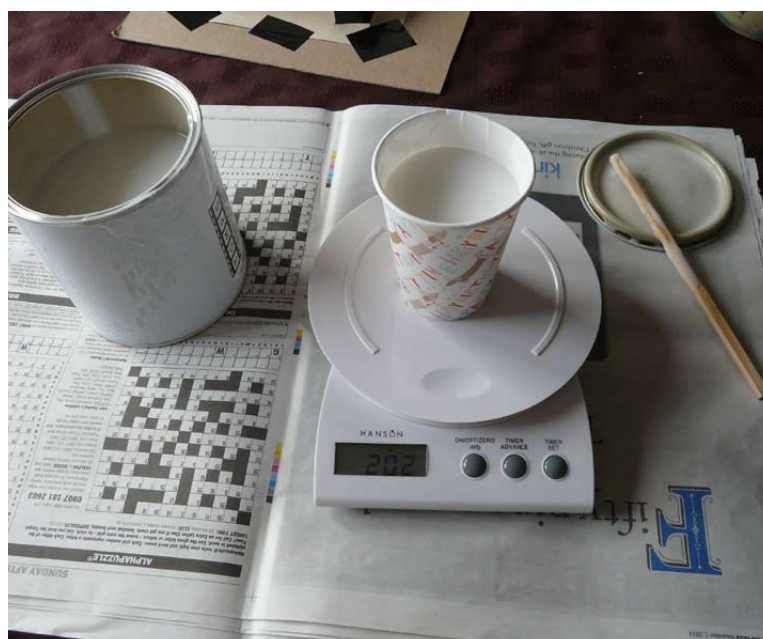
the original plastic bits to the heavy card base, so as to try and ensure that no silicone rubber could creep under the flat base, and then the side walls were added to enclose the items to be cast. The side walls were held in position with small bits of duck tape to ensure a tight, close fit with the base.

Once I was happy with the preparation of the items to be cast, I organised myself ready for mixing the silicone rubber. I had selected a 'budget' silicone rubber off Ebay, and when ordering I had a choice of a fast catalyst (blue) or slower version





in red. Needless to say, I selected red! The mixing ratio is 20 parts rubber to 1 part of catalyst, so once I had transferred sufficient rubber into a paper mixing cup, I divided the weight of rubber by 20, and then added 10.1 grams of the red catalyst into the rubber. The catalyst is very liquid, and flows like water so be warned. This was then mixed for about a minute, with a small dowel. The 'pot life' of the rubber isn't huge, so working quite quickly I divided the rubber, into the two moulds using a combination of pouring and prodding with the dowel, until I had the moulds evenly filled and had a nice even layer around and on top of the plastic parts.



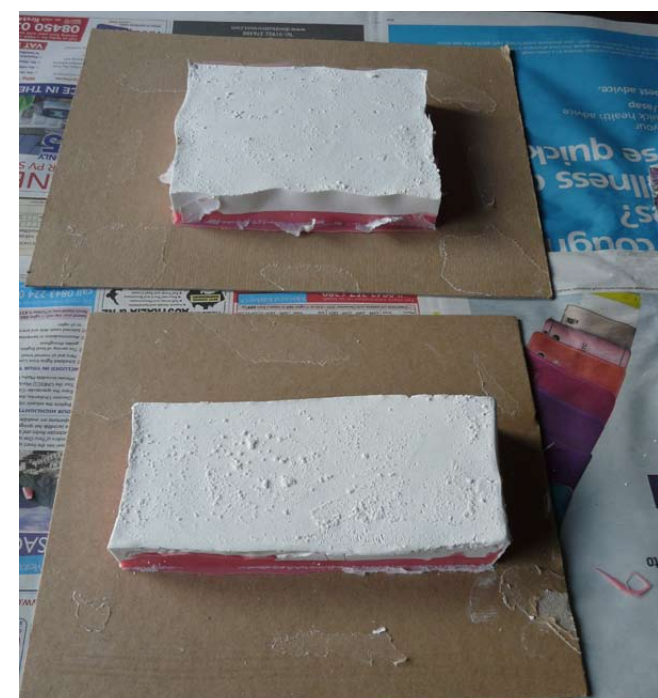
Once mixed, the rubber is an intense pink colour so it is easy to see when it is properly mixed. Speed is of the essence, as the rubber starts to thicken up quite quickly and you can see a bit of an uneven surface to the smaller mould on the left hand

side. Once filled the moulds were put to one side to go off. I left them a couple of days for the rubber to thoroughly cure. You can use the moulds as soon as the rubber hardens. However, if the moulds aren't left to fully cure before use, their effective casting life is reduced. I opted for a proper 100% cure before use.

I read somewhere, that thin silicone rubber moulds need some sort of 'jacket' around the mould, so after cutting some notches into the corners of the hardened rubber, I poured on a topping of plaster of paris, so that each mould had its own bed to lie on, once casting commenced. Having done all that extra work, I now realise that the plaster



isn't strictly necessary with simple one-piece moulds, especially if the rubber is thick enough to fully support the weight of resin used.



Here are the two moulds freshly topped with still wet plaster of paris. Any holes in the mould wall will become immediately apparent, and don't overfill the moulds like I did as the plaster will run everywhere. The idea is to try and achieve a



level and stable bed for each of the rubber moulds to lie in.

This shows both the moulds with the side walls freshly removed, to allow the plaster of paris to completely dry. After a few hours, the moulds were separated from the heavy card base, and then the original plastic components were removed.





You can see the high level of detail that the rubber picks up, and if you look into the Webley mould, you can see some unfortunate air bubbles in the mould, around the Webley name. For that reason, it pays to take time to properly ensure the rubber is fully manipulated/ massaged into the areas of high detail as you add the liquid rubber.

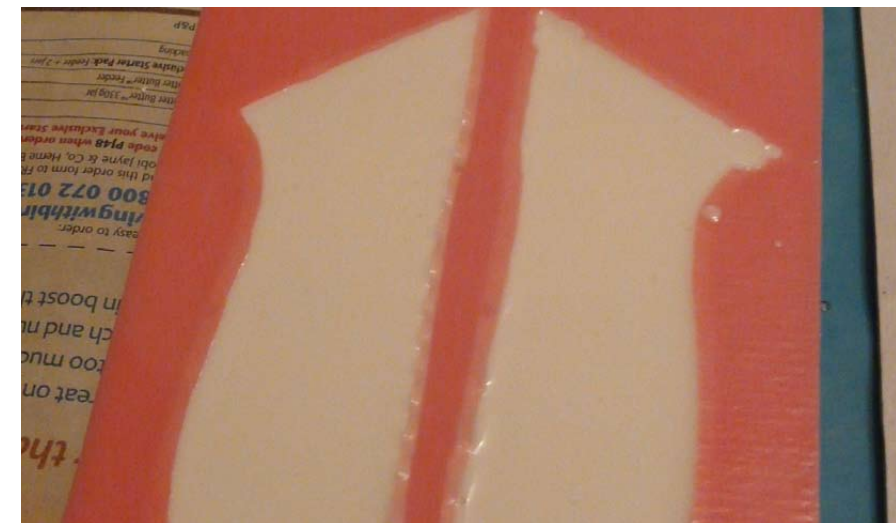
Once the mould has thoroughly cured, you are ready to cast. Line up all the components. I used the SG2000 fast cast polyurethane resin system, with added Black pigment. Part A and part B is mixed in a 1 : 1 ratio. Use up to 10% pigment in the whole weight of resin (so for example, if you decided to use a total of 60 grams of



resin (30 grams of Part A, and 30 grams of part B), you would use up to 6 grams of pigment, which is then thoroughly mixed into part B only. Once completely mixed, part A is then added, and quickly mixed again. The resulting mix is poured into the mould. You have a minute or two of pot life, before the resin

starts to gel, so work quickly to ensure the resin flows quickly into the rubber mould.

Here are the filled moulds, which are then hardening. You can see that the mould for the butt plate shows a very uneven fill. This was due to overfilling the mould initially, so that it ran over the top, then re-filling it with remaining resin which had



begun to gel. I then left the mould for around half an hour, before removing the resulting castings. If you were going for full production, the moulds could be re-poured as soon as the hardened casts were removed and a well cured mould can produce a lot of impressions before mould detail is eventually lost, so you can see it is worth investing a lot of attention and care into producing a really good mould with maximum detail in the rubber.

These are the first attempts from the new moulds. The new Webley grips are to the left of the original grips, and now only need the screw holes drilling out. They have been sanded down slightly on the backs to make them totally flat and level. The new Falke butt plate is on the right hand side of the original. The wear on the originals, gives them a slightly more polished look, but apart from that, there is a good level of detail on the reproduction.

Next, I decided to mould some grips

using the normally coloured resin, which produces an off white finish.



This I would guess would be likely to go more of an ivory colour over time.



Finally I will show you a close up of the Falke butt plates. Original on the left and reproduction on the right, so you can see the high level of detail which the rubber is capable of picking up.

Other perfect casting projects in the future, featuring airguns, could include moulding items such as the plastic furniture on the Milbro Cougar air pistol, as the originals have now become very brittle. And re-casting the handles on the official Centennial Airsporter 1982 gun bag, as again these mostly have become brittle and easily damaged. More complicated parts may require more complicated moulds, and different colour pigments etc, however I do hope that this article has given you a glimpse of what is possible, and might inspire you to give it a go in the future.

I got my materials on Ebay, and you may want to check out the following

web site for materials:

www.mouldcraft.co.uk

I used SG2000 'fast cast' polyurethane resin, together with specific compatible black polyurethane pigment. (Other colours are available)

All the fun of the fayre

John Watson reports on Melbourne Marksmen's 2014 airgun collectors' fayre. Now established as one of Britain's premier airgun events, the fayre saw many rare items for sale – and again it raised hundreds of pounds for a worthy charity, the Royal British Legion Poppy Appeal



Melbourne Marksmen's August Fayre 2014 was the third big fayre that the club has run in the past two years and like our fayre in the summer of 2013, it was run not just to provide an opportunity for collectors to meet, chat, sell and buy, but also to raise funds for the Royal British Legion (RBL) Poppy Appeal

Our last big fayre was so popular that we struggled for floor space, so the decision was taken for this fayre to exclude the bell target competitions that we like to run and to use the additional floor space for



extra tables for the sellers

Also the RBL staff agreed to organise and run the BBQ on the day, releasing Melbourne Marksmen members to help with the fayre.

An early start allowed us to let those selling set up for an 11am. start and buying/selling continued to mid-late afternoon.

The list of collectable guns exhibited was endless. There were of course all the rifles and pistols that we normally see at airgun fayres, including the popular models (old and newer) from BSA, Webley, Diana, Walther, Original, Air Arms, Sussex Armoury, BSF, Milbro, Haenel, Weihrauch, Sharp, and Hyscore.

There were many examples of both pre- and post-war spring air rifles and pistols, Co2 guns (both target and general use) including a FWW Co2 match rifle and various Crosman pistols, single and multi-pump pneumatics from Sheridan and Benjamin, and





a number of the earlier pre-charged rifles from Air Arms, Daystate, Titan, Logun – and even a Stalker Tiger 10.

Apart from Airsporters, Cadets and Meteors etc. the slightly rarer BSA rifles and pistols offered on the day included BSA Merlins, a circa 1910 Junior Pattern, a Buccaneer (boxed), an Improved Model B, Breakdown Patterns, and Light Patterns.

Webley guns offered for sale included pre- and post-war pistols including straight grip Seniors and the Target model. Rifles included the Mk11 Service rifle and Mk111 Supertargets and a more modern Venom model

and Longbow.

There was virtually every rifle model made by Weihrauch including the HW55 and the desirable, more modern, Classic HW 85.

Rarer items for sale included two BSA Military Patterns, a nice Greener air rifle, a Giffard Co2 rifle, an Accles and Shelvoke Warrior pistol, a BSA Gunlaying Teacher, and an original Webley pistol case.

In addition to the airguns for sale, many sellers brought other items such as books, magazines, 'scopes, pellets, gun cases, gunstocks, bell

targets, springs and gun lubricants etc. and at the end of the day everyone seemed to have enjoyed another great day out.

The fayre raised £775 for the Poppy Appeal from door admissions, table sales, the raffle and the BBQ. Many thanks to all those who made this possible. Also a big thank you to those who donated prizes (including air rifles) for our raffle on the day.

The club hopes to host one or more fayres in 2015 and will keep everyone informed.





Feast and famine – a collector's story

Mick Watts became a collector when his youthful fondness for airguns was rekindled in the 1980s. In a story that will be familiar to many other collectors, he recounts how, inspired by the writers of the day, he tracked down elusive bargains and spent what he could afford as and when his finances allowed.

How did I get into vintage airgun collecting? Well the blame lies with my son. When he asked if he could have an airgun as his mate had one,

my answer was to wait until you are 14 in a few months' time.

That time arrived and he informed

me that there was a gun shop in our town. This was news to me. So off we went and no wonder I didn't know about it as it was above a health food shop. You had to go through the shop to the back and ring the bell and wait for the owner to come and let you in.

So up we went. It was only a small shop with just a few new airguns on display, but he had some secondhand ones in. Lo and behold there was an old BSA underlever in there, and that re-kindled my younger days right away as I had always wanted one of these. A mate of mine had one and I had a BSA Airsporter, which must have been a Mk 1 or Mk 2 as this was 1960-61.

That was it, I was hooked. But having a family to feed and mortgage to pay, money was a bit tight so I used to do a few jobs on the side to get a bit extra for my

new-found hobby (disease!).

I then found out that there was an arms auction not too far away in Birmingham – Weller & Dufty – and that is where I first met Dennis Hiller. My thinking was that it must be where the dealers get their stock from and if I could outbid them I would be saving myself their profit.

It didn't always work out that way, though I did have some good buys from there. In the meantime I also went with my son who had now become very interested in militaria to the arms fairs that were local to me.

Air Gunner magazine is where I came across the excellent articles by John Atkins, which enlightened me to just how many different models and makers of air pistols and rifles there were. So he has to take some of the blame for my addiction too. Thanks, John!

I also bought a copy of Dennis's book which at the time was a very good source of information on the different guns, and it also gave me a good idea of what prices to pay. A lot of these were way out of my range. Now there are a quite a lot more excellent books on the subject, some of which are collectable in their own right.

As time went on and the kids left home, I found I had a bit more money to spend on my hobby and the guns that were out of my range, (pun intended!) I could now afford, such as a Bonehill Improved Britannia, and the early Bonehill models, which are some of my

favourite guns.

I have also been lucky enough to get hold of a BSA prototype with pop-up breech among the rifles, and no collection is complete without a Webley Service.

Of the pistols, the Abas Major is my particular favourite, even over the Westley Richards Highest Possible and Webleys.

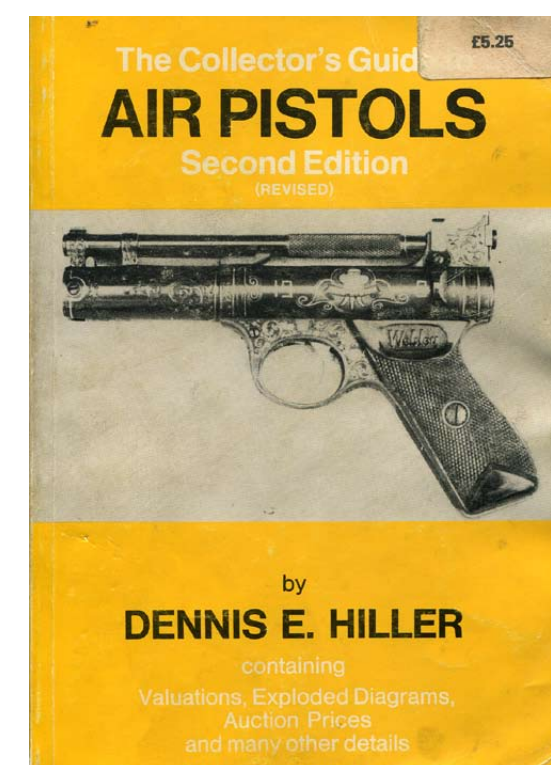
One thing leads to another and I also now collect all sorts of associated airgun things; pellets, catalogues, literature etc, some of which is now selling for large amounts of money. Oh, for a bit of hindsight!

Now that I am retired, money has again become in short supply and I now have to sell some of my collection to be able to fund any new additions.

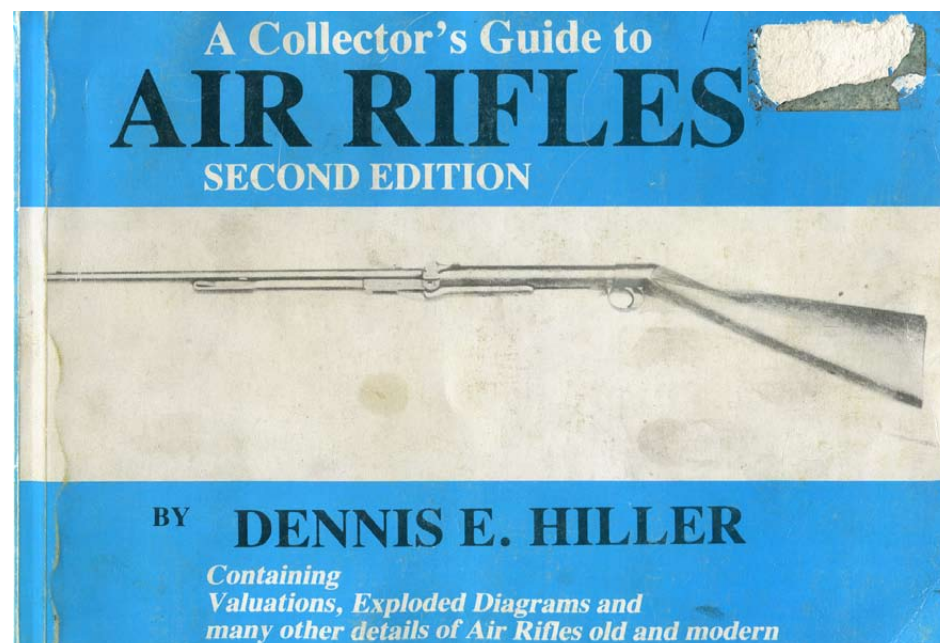
All of this has happened since I first started collecting in 1986. Where has all the time gone (and the money too)? But I must say, it has been a very enjoyable journey, and hopefully it will continue on for a bit longer.



The Abas Major (photograph © Brian Uprichard)



Dennis Hiller's book on collectable vintage pistols



An early edition of Dennis Hiller's important book on vintage rifles



Bonehill's Improved Britannia (photograph © John Milewski)

M'aidez! M'aidez!

Mr D's WW3

The celebrated sage of the AirgunBBS, **Mr D**, has once again seen fit to regale us with tales of adventures with his trusty Airsporter (with self-opening tap) in no.2 bore. In this story, with the help of the Frenchman, Elspeth, and daughter Melody, he deals with some very rum doings off the coast of Fife, involving Cold War remnants of an explosive (and ultimately delicious) kind.



Part One

There is a lonely bay on the coast of Fife, formed by a hook of land which sweeps north like a hitch-hiker's thumb. If you have been late at The Smugglers in Anstruther, had a glass too many, lost the A917 and blundered across dark fields to the sighing sea, then you will know it yourself. The Frenchman claimed it as his own fishery for lobster, crab and button-mackerel, and christened it 'Le Cap de Bon Chance'. While the results of his efforts were variable, spending most of his time assaying the quality of a large bottle of d'Artangan brandy in the wheelhouse, he had firm faith in his little patch of ocean.

Like all Frenchmen, he owned a revolver. He kept it in a greasy canvas pouch in the toolbox, wrapped in a large pair of ladies' nether undergarments. 'Celine' he would whisper, 'she was my Queen', unwrapping the deadly weapon. When I pointed out the extreme illegality of owning such an item, and urging him to pitch it into the sea and take up a BSA

Airsporter (with self-opening tap), he said 'What can I do? I am a Frenchman. We all have revolvers. Besides, I am the King of this boat.' The weapon in question was a Moisin-Nagant 1895 7.62mm Gas-Seal revolver. Where he got it, he would not mention, although I know in the distant past he had dealings with Russian trawler-men in the floating pubs near Orkney. 'They had needs', he once said darkly, and no more. The fact that it had been designed by a Belgian irked him immensely, but the association with the Imperial Russian Army of the Tsar compensated for the irk with a glow of Royalist satisfaction. 'Irk plus glow', he said, 'c'est sum-zero'.

And a glow is what the Frenchman saw one autumn evening, deep in the black-green sea beneath his boat. A white, burning light right down in the kelp beds. He thought at first it was some kind of repair to a crude-oil pipeline, but there are none for a hundred miles in that part of the North Sea. It soon faded and he put it down to a little too much

d'Artagnan. But the next night, he noticed another one of these blazes, a little further from the boat – and then he found that one of his lobster pots had been incinerated. Burned, under water! On the third night there were no lights in the sea but, trudging back up the beach in the early hours, he was astonished and aghast to see his silver Renault 12 had been destroyed by fire. The police put it down to its age and the country of origin of the vehicle – they claim a short-circuit had ignited some split brake-fluid – but the Frenchman was not convinced. 'Tout le monde knows that the Citroen 2CV is 'le Ronson' – pas le Renault'.

He didn't go out to the Cape for a few days as he had to source another French car and haggle the price down. When he did, he took a full bottle of d'Artagnan with the intention of drowning his sorrows over the loss of *Sylvere*, his poor, beloved, immolated Renault. At about one-third down the bottle – the Frenchman claims this indicates it was half-past midnight – an extraordinary thing happened. He had just placed the brandy-bottle down on the rear deck to answer a call of nature, when a small crab sidled over the gunwhale, scuttled up to the bottle and shimmied up to the mouth. Standing as he was, defenceless and mid-flow, with his *Jean Thomas* in his hand, he was unable to do anything except experience a jolt of extreme fright. For a moment

the crab adjusted its position, there was a soft 'pop' and a blinding light like a magnesium flare split the night. Leaving his *Jean Thomas* to its own devices, the Frenchman instinctively grabbed his moray-gaff and hooked the bottle and crab out to sea as far as he could. The burning light plopped into the ocean and sank into the depths. He put away *Jean Thomas*, fired up the engine, rushed straight home and hid in the largest and strongest of his cupboards until the late afternoon.

It was at this point he came to see me and Elspeth. We were doing our 'hedging and ditching' at the allotment. I like to keep my agriculture traditional, so we have both a hedge and a ditch at the lowermost end of the allotment. I do so enjoy hedgerow fruits like rose-hip and blackberry and the cover is good for encouraging the pollinators. I was addressing a few thorny issues while Elspeth was toiling like a Trojan in the ditch with her mattock, when a familiar figure bounded over the fence and came running towards us, his onion-necklace bouncing furiously. 'The Commies... they are le merde!' he panted. 'Yes, they probably are, but not in front of Elspeth, old chap. 'I pardon myself, they have a devil-fish and have trained it! Le merde! I pardon myself, sorry Elspeth.'

Elspeth sensed that this was time to get the flask of tea and some of her samosas from the Hillman Imp, and gently laid

her mattock and gloves down. He continued 'le merding' and pardoning himself until the tea was brought and administered. Sitting on the heap of soft earth that Elspeth had won from the integument of jealous Fife, the Frenchman recounted the events of the past few days and the terrifying ordeal of the previous night. His extreme agitation focused on one detail; just as the crab adjusted itself, he thought he saw an emblem on its back in dark red, and some lettering. The symbol was a five-pointed star; the letters read 'CCCP'. It was clear where that had come from.

Unfortunately, it was not at all clear to the Duty Officer at RAF Leuchars. In fact, it was so opaque as to force him through a species of de-mannered cone which stripped him of any resemblance to a gentleman. Speaking at, rather than to me, through the telephone, he informed me that the UK and specifically the fishermen of Fife, were certainly not under attack by Soviet crab-bombers, that the Soviet Union had not existed for a number of years, and that if I persisted in my claims I would be up before the magistrate. I attempted to reason with him, explaining that they were Soviet crab-bombers *from the past*, but he rudely slammed the phone down. We were on our own.

Naturally my thoughts led straight to my BSA Airsporter

(with self-opening tap). A simple, reliable and accurate weapon in No.2 bore, I could not see any problem with a standard bait-and-wait approach; ensconced in some suitably thick tweeds (marine tweeds proofed with wild lanolin for choice, with the deeper blues and greens and blacks in the weave) I should be able to pick off a boarding party with just as much ease as a single insurgent. The Communistic crustaceans would fall before a volley of Lane's Beattall round-head pellets, their cracked carapaces littering the lapping waves around the boat in less than a minute. It is well known that with its *self-opening* tap, the BSA Airsporter is capable of a very high rate of fire in experienced hands, and I assured the Frenchman we would be able to despatch these literally spineless adversaries with no harm to him or his livelihood. He was not so sure. 'I am the King of my boat, I should be its defender.' I offered him supervised use of my BSA Airsporter in No.2 bore (with self-opening tap) but he declined. His mood changed quickly, darkening and draining, as is his wont. 'Maybe they have gone', he shrugged in the manner of a Frenchman wholeheartedly burying his head in the sand... and went back to his boat alone.

Another night and all is peaceful in the Cape. And another. And on the third... The Frenchman is enjoying a mug

of Australian wine (he never drinks it ashore for reasons of national embarrassment) and checking his mackerel lines, when suddenly he hears a faint scraping sound that can only be 'invertebrate arthropod crustacean'. He very slowly bends down and looks behind himself through the gap between his planted sea-legs. On the gunwhale opposite are three pairs of crabby eyes looking at him, or more accurately, at his backside. He can see miniature Thermite bombs snug between the top joints of their legs and the undersides of their carapaces, shining faintly like so many evil cigar-cases. Near his right foot is the tool-box. Keeping one eye on the crabs, who show their alertness through gentle but relentlessly antennae-waving, he slowly, slowly opens the tool-box, gingerly tugs the wrapped Moisin-Nagant out of the pouch and carefully teases off Celine's silken underclothes. Clasp the revolver in his right hand he suddenly remembers it is unloaded. For reasons of safety, of course. What to do? The dozen or so rounds of ammunition were sealed in a 'French letter' (to keep out the sea air) and stuffed in an old baccy tin at the bottom of the toolbox. With an empty cylinder, and no time to load, he is left with only one thing. A dramatic gesture. He spins around, waves the revolver in the air and shouts the only Russian he knows at them 'OTVA-LI! OTVA-LI!'. There is a moment's silence and the

three crabs stiffen, stand up on their hindmost (four) legs, salute with their right pincers and drop, one by one, back into the ocean.

There is report of another silver car burned in the night. This time, a new Audi. No short-circuit there. The police blame seasonal unrest amongst the caddies at the Royal & Ancient golf-course.

Part Two

The Frenchman appeals to Elspeth and I for help. Elspeth contacts her sister to obtain the aforementioned marine tweeds, but she is away in England foraging for sea-coal and won't be back until she has 'got her ton'. No matter; Elspeth is a great improviser and semi-professional fuller and dyer, and she provides us with rock-and-kelp pattern camouflage ponchos. The 'invisibility effect' is somewhat spoiled in the case of the Frenchman as he insists on wearing his tricorne hat 'pour Louis XIV'. After much negotiation, I persuade him to agree not to use the Moisin-Nagant unless in mortal danger – he is to spot the crabs and direct the fire of the BSA Airsporter in No 2 bore (with self-opening tap). Those of you who have had experience with the Bren automatic rifle (such it is – a real 'machine-gun' is belt-fed and ought to be able to boil water for tea using its cooling system) will know how a good marksman/spotter team can be utterly

devastating against even the most committed foe.

At this point let me share with you my deductive reasoning as to the nature of these belligerent crustaceans. That they originated from the former Soviet Union is in no doubt, if the five pointed star and other markings seen by the Frenchman were accurate. Clearly they were Russian-speaking, and drilled and familiar with the uncouth ways of the Red Navy. For it is clear their limited intelligence had mistaken the crazed, drunken shouting and Moisin-Nagant-waving of the Frenchman for the normal behaviour of a Soviet-era Naval officer. Their particular attraction to silver vehicles and the bottle of d'Artagnan clearly indicated the target of these submarine saboteurs – the English Electric Lightnings once stationed at RAF Leuchars. Obviously the creatures had been bred in the 1960s to bring disaster to our fleet of jet-fighters by attacking them with Thermite charges – possibly during fuelling operations when the planes and crews would be at their most vulnerable. I have often suspected that d'Artagnan brandy contains certain congeners which are indistinguishable from aviation spirit. They must have been pre-placed, possibly by Soviet spy-ships or a midget submarine in some kind of dormant form, ready to be activated in the run-



up to hostilities. Without our Lightnings guarding our Northern and Eastern flank, we would have been stingless bees and the Reds would have stolen our honey – or more plainly put, would have bombed us with impunity. Oh, yes, it was the Soviets all right – they have previous form with bomb-dogs when they were out after Nazi tanks in the last Great Unpleasantness. In that case the intelligence of the dogs had been a hindrance; it seems the Soviets learned from this mistake.

I explained all this to the Frenchman. Then we sat in silence by the fire while our blood boiled, mine because I believe that the use of animals in human warfare is (as well as being plain wrong) illegal according to the Law of the Jungle**, while the Frenchman's boiled because being killed in warfare by an enemy animal is, to one of his noble lineage, the most shameful death imaginable. To be killed by a dog is shameful, to be killed by a crab is utter

degradation. After our blood had been boiling for five or ten minutes, it boiled a bit more when I pointed out that the war that the crabs were fighting had been over for a good many years. 'They must be Crabe Speciale forces – to last so long' the Frenchman said miserably – 'Yes indeed, *Spetzcrabs* – sleepers ready to wreak havoc on Fife', came my worried answer. Happily, before we boiled over, Elspeth came in with some excellent shortbread and camomile tea, and we were able to simmer down and prepare our strategy. This did not take very long and comprised the pair of us being on the Frenchman's boat (curiously, he only allowed it a number rather than a name, and I have forgotten it) with me atop the wheelhouse in the manner of a tiger hunter in his *machan*, while the Frenchman was to patrol the boat with a silver-paper-wrapped bottle of d'Artagnan. A torch with a red filter (ingeniously fashioned by the Frenchman from sweetie wrappers) would be used by

the Frenchman to 'mark' the crabs as they boarded, and the BSA Airsporter (with self-opening tap) would perform the necessary crustaceanocide with Lanes 'Beatall' waisted pellets in No.2 bore. It would be, as they say, 'a piece of cake'; perhaps even a piece of crab-cake.

Not so. As Burns might have said, 'the best laid plans of Frenchmen are often an utter shambles of the first order' (if you doubt me, merely refer to the history of Indo-China). The night was startlingly mild and calm for late October; the air was so clear that the Frenchman remarked he could see all the way to the moon. We waited, and nothing happened, as is often the case with waiting. The Frenchman got bored and managed to catch a couple of mackerel with spinners when he thought I wasn't looking. Really, he cannot stick to things; the victim of descent from an inconstant and fickle line. I was kept awake by the discomfort of lying atop the plankage of the wheelhouse, which was made of deal board with an inordinate number of knots, nail-heads, splinters and lumps on it – I did in fact consider asking Elspeth to engage her upholstery skills and make an oilskin-covered bolster to make it more homely, but even I know when too far is too far. I was alerted by a clucking sound. The Frenchman was signalling to me with his lips and waving his left hand up and down. As

we had not organised a pre-arranged signalling system, I had no idea what this might mean, but I deduced it was coincident with the arrival of hostile forces. Yes! There in the pool of Quality Street light, was a crab steadily traversing the far gunwhale! It looked larger than the ones that the Frenchman had previously described, and it appeared to be carrying its payload on the dorsal surface of its carapace, rather than above its knees. With a flash I cocked and loaded the BSA Airsporter with my trade-mark scissor-and-brush technique. For those of you who are not familiar with this, the left hand releases the under-lever catch and grasps the under-lever drawing it down... and at the same time a firm grasp of the pistol grip is made (trigger finger out of the trigger guard of course) and forced towards the other hand so that both arms are engaged in the cocking action of the mainspring in the eponymous scissoring action. As you may know, the self-opening tap opens at this point, the left hand 'smooths' the cocking lever back into battery and a pellet, carefully concealed between the ring and middle finger of the left hand is 'brushed' forwards into the mouth of the awaiting pellet-chamber; a second brush backwards and the tap is closed and the rifle is ready to fire. Endless practice with this technique has resulted in an actual physical adaptation on the webbing between my fingers, a cleft for storing

pellets. On a good day I can loose off between 20 and 30 *aimed* shots in a minute. My eye caught the gold-plated bead, there was a brief accommodation to place it in the notch of the rear-sight, and there he was, the Spetzcrab – range, 16 feet! One breath out, half a breath in, steady, taking into account the distance and the difference in trajectory caused by shooting effectively 'downhill', I placed the shining will-'o'-the-wisp of the foresight an inch or so under his hideous mask of a face and began the trigger-press. Some of you may flinch at the use of the work 'press'. Well it IS a 'press'. A 'press' – like pikemen in combat, like cider apples being forced for juice, like the pages of the Bible being printed out on Caxton's original engine. Only a very coarse man will *squeeze* things; a barmaid, himself through a gap like a rat – or indeed a trigger. A gentleman 'presses' his trigger. And let that be an end to it. And in addition, those of you who are not familiar with the trigger mechanism of the BSA Airsporter will not know that you need to get firmly physical with it. You need to take up the first stage like the reins of a spirited horse and let it know who is boss. When this is accomplished, the second stage must be like breaking the sword of your enemy over a stone; you must be firm, resolute and committed. All in all, the BSA Airsporter (with self-opening tap) is not a rifle for the faint-hearted. Or the weak-fingered. A squeeze

SIMPLY WILL NOT DO.

The sear tripped; the mighty BSA mainspring began uncoiling, pushing the walnut stock against my cheek and shoulder. The unique and never-imitated coniform piston began its thunderous progress down the compression chamber, generating pressures which are only ever seen deep in the bowels of the molten core of the Earth. The concentric placement of the transfer port (one of my younger shooting acquaintances has told me that while this feature HAS been imitated, it is without the coniform – you might say 'all duff and no plum') channels the blast of super-compressed air into the tiny rear cavity of the Lanes Beatall, it holds on for a microsecond and then it is off, spiralling at tremendous speed (some say nearly 600 fps – that is SIX HUNDRED FEET PER SECOND) down the length of the beautifully-tapered, cold-forged-on-a-mandrel BSA barrel and out into the cold air above the Fife pelagicium, or indeed 'North Sea'.

And then there was silence. I was spinning through the air with the BSA Airsporter (with self-opening tap) still in my grasp. The stars were alternately above and then below me and then, with the rudest shock of my life, I heard an almighty splash as I arrived, as if falling from one of the heavenly bodies, head first into the stinging salt water. I faintly heard another splash

and what sounded like Gallic expletives. Great fortune had I that day, as I had carefully attached numerous floatation aides to the lanyard of my BSA Airsporter (with self-opening tap) so that it might be salvaged should a freak wave knock it overboard. Many young people look askance at the affixment of lanyards to tools and weapons these days, but I can tell you I owe my life to one. I dare say these are the same young people who cry and demand expensive anti-melancholia drugs from their doctors when they lose their computerised portable telephones. They don't need drugs on the National Scheme, they need *lanyards*, and to be taught how to use them properly. However, I digress; I was clasping my BSA Airsporter (with self opening tap) among a collection of plastic barrels, cork mats and inflatable beach toys, when I heard a moan to my right. By a process of a one handed doggy-paddle I was able to traverse and find my old friend, the Frenchman, buoyed up by what looked like a white life-jacket. They were, of course, Celine's undergarments, knotted and inflated in the prescribed manner. The Moisin-Nagant has been swallowed by the sea, but in its way it has saved his life, as had the love of the long lost Celine.

Our second and equally necessary visit by luck was that the calm allowed us to drag ourselves aboard the boat after only a few minutes' floundering

and cursing. There was minor blast-damage on the boat, but happily no fire. The gunwhale was shattered where the crab had been. A mystery, however, was the noiselessness of the incident. Revived by a dram of d'Artagnan, we returned home utterly crestfallen. The Frenchman had lost his revolver, his tricorne hat, his boat had been damaged and he had nothing but an old pair of silk undergarments and a brace of mackerel to be thankful for. For myself, I had been defeated by an invertebrate. A Communist invertebrate.

Part Three

The rehabilitation of two men in extreme-late-upper-middle age from concussion, immersion in freezing salt-water, and humiliation in battle, is not one that many women would have even the first inkling of a clue on where to start, but not so my Elspeth. First, a soaking in a tub full of a very hot solution of magnesium sulphate and ginger essence (we bathed serially rather than in parallel, the Frenchman taking precedence as he was our Guest). We were then wrapped in hot towels, Witney blankets, and West German Army issue sleeping bags, and invested in the two occasional cot-beds by the range in the kitchen. Orders were to sweat it out. Over the course of the next 48 hours, we were fed curries and similarly spiced savouries – even for

breakfast – on the ‘step-down plan’, starting with the N-Phal and steadily reducing in heat. Tots of neat single malts were administered at 90 minute intervals, while hydration was maintained by regular ingestion of home-made ginger beer and lime juice cordial. It is true that in the morning all the doors and windows of the house had to be opened ‘to let the evil spirits out’ but at the end of the treatment we were feeling ready to face the foe again. However, no new plan emerged. I am no strategist, and ‘bait and wait’, or ‘seek and destroy’ are the only methods I know of the art of war. I had thought these would have been sufficient for my lifetime, but I had found at last that the world is bigger and more complicated than an allotment.

The Frenchman turned his face to the wall in resignation as he discerned that there was no more to my genius than to his, BSA Airsporter (with self-opening tap) notwithstanding. The faint putt-putt-ring-ding-putt-putt of Melody’s MZ motorcycle-sidecar combination could be heard coming up the lane. The arrival of my second-middle daughter put heart in him. He was rather fond of her, her moody silences and chess-playing ability, her utter lack of feminine wiles, but probably most of all because she never corrected his English. I was guilty of this, even Elspeth was, as were the whole congregation at the Cross Keys, and he

suffered it bravely. In his heart he believed somehow that English, even Fife English, was simply French spoken with a rough accent. Melody had the unique gift of making him feel at home.

She clomped into the kitchen in her heavy boots and dumped her safety-helmet in Gerald Thorndyke’s basket. Gerald was out in the barn tearing a Rugby ball to pieces and would not be back until he had destroyed it and gone to roll in every species of muck he could find. He was that kind of a dog. ‘Mummy said that you are in a spot of bother,’ she said, and plonked down in one of the carvers, opening a canister of Irn Bru and drinking it directly, without the aid of a tumbler or mug. The Frenchman and I relayed the whole sorry story to her, while she nodded and made ‘mmm’ noises and sipped at her carbonated beverage. ‘I see,’ she said. She made a few notes on the back of an envelope from the tinder pile. ‘I’m going into town,’ she said. ‘Meet me at the harbour at 11pm’.

After luncheon – a fairly mild rabbit dopiazza – I inspected and reassembled my BSA Airsporter (with self-opening tap). Fortunately I had taken the precaution of applying a liberal coating of anti-rust lard to the metal parts and Elspeth had been most assiduous in stripping and oiling the rifle after she had dealt with the immediate emergency of the Frenchman and I. I was

a little concerned about the aluminium trigger block which adds so greatly to the grace and sleekness of the rifle, but there was no damage that I could perceive, either by eye or with the aid of a watchmaker’s loupe. The stout leather piston washer, endowed with my own special mixture of Evening Primrose and Millerol Pistoneeze P30 oils, had shrugged off the North Sea, as had the bore, which was as bright and shiny as the day the hammers at Small Heath had forged it. Many people have remarked on the sleekness of my BSA Airsporter (with self-opening tap), and one elderly member of the W.I. likened it to a dolphin – and it had taken no more notice of its immersion than if it indeed had been one. The only part which I found tricky was cleaning out the ball-stop mechanism on the self-opening tap – I always find the tiny spring a devil to polish.

We busied ourselves with homely tasks, the Frenchman working over the onion patch in the vegetable garden as befits his nature, while I assisted Elspeth with the overhaul of the head of the Hillman Imp, quietly cutting new gaskets to the satisfying sound of her lapping the valve-seats.

For our evening meal we had a brisk mutton jalfrezi, with French-fried potatoes and French beans in deference to our guest. Sitting in the snug after the meal, the

Frenchman and I sat in uneasy silence while we fortified our constitutions further with goodly helpings of Talisker and puffs on our pipes. It was then time to leave for the boat. Dressed in one of my older tweed suits, the Frenchman almost looked as if he could be a Britisher, save for the tell-tale Gallic facial hair and trademark onions.

Part Four

When we arrived at the harbour, Melody was already there leaning against her MZ and talking to a thin, frightened-looking youth holding a lady’s handbag full of books. ‘Are you a wizard?’ enquired the Frenchman, mistaking the red gown of the local university for an occult fetish. ‘N-n-n-n-no, I am a student. From St Salvatore’s.’ ‘Ah. I knew a student once. In Marseille. He is dead now, tant pis.’ Melody handed me a large picnic basket, which was far too heavy to contain a picnic, and we trudged down to the mooring and embarked onto the Frenchman’s boat in silence. The Frenchman and Melody carried one of her hand-made coracles. In accordance with the Laws of Britain, I carried at the trail my BSA Airsporter (with self-opening tap) in a securely-fastened saddle-leather slip of my own manufacture.

‘What is for supper?’ the Frenchman enquired of me as we neared the Cap de Bon Chance. Melody and

the youth sat huddled in murmurous confab in the stern. I opened the picnic basket and enumerated its contents. ‘One gallon paraffin. One bale fine steel wool. Two bottles Stolichnaya Red Label, two large tubs pickled herring. Five large bath-sponges. One slotted spatula. 25 rounds 12-bore, number 6 shot. A mouth-organ, possibly from the People’s Republic of China.’ The Frenchman winced ‘There is no cheese? I will die. This is a party for a monster.’ He took a swig from a fresh bottle of d’Artagnan.

‘Yes, it is a party for a monster. These genetically enhanced crabs. Now you chaps stay in the wheelhouse and Sebastian and I will make our preparations. I’ll tell you when to act. And Papa – keep your BSA Airsporter with its self-opening tap in its case at all times.’

Melody took a couple of coils of rope and the toolbox. She positioned Sebastian a few feet up the mast and secured him using the rope, in a comfortable but fixed position. The handbag full of books and a torch were arraigned around his neck. On the deck she chalked out a five pointed star; not the star of the necromancer, but the five pointed Soviet star of the old Soviet empire. At the tip of each point of the star she nailed a bath sponge. In the middle of the star she nailed the midpoint of a long length of rope, either end of which she threw over the port and

starboard sides of the boat. Before she did so, she drizzled it liberally with half of one of the bottles of Stolichnaya. She opened the second bottle and added a small amount of liquid from a vial into both bottles. She poured the mixture onto the bath sponges, and dumped all the pickled herrings into the middle of the star. Her trap was set and baited. Taking the mouth organ, she climbed up the mast and belayed herself adjacent to the student. ‘Sing, my canary!’ she said to Sebastian.

Melody fired up the mouth organ with the crude but cheerful peasant air ‘Kalinka’ and Sebastian obliged with a true but warbling rendition in the Russian slavic tongue. Several rounds of the chorus passed before anything happened, but sure enough, the ropes overboard started to move and a steady stream of Spetzcrabs boarded the vessel and marched into the star on deck. They seemed have two ranks; the smaller blue type, with the Thermite charges under their carapaces, and the larger black type with a single block of some kind of high explosive carried atop the carapace. Melody kept up a furious pace with the harmonica, and Sebastian was nearly worn out by the time the stream of Spetzcrabs dwindled and all were aboard. There were about 80 of the creatures, which is about two companies, given that the crabs were probably part of a specialised Soviet armoured

brigade. They rocked and linked claws and rotated in the manner of peasant dancers the world over. At the end of the song, Sebastian took out one of his books and began reading by torchlight. Later, Melody explained that it was some Bulgakov, humorous material to relax and entertain. The crabs began drinking from the vodka-soaked sponges; when they had taken what appeared, for want of a better expression, a 'shot', they ambled, crab-wise, to the pickled herring and took a few bites, then back to the sponge. Their antennae waved gently with obvious pleasure. Sebastian changed book after 20 minutes or so to some short stories by Chekhov, and then after an hour of those delicately written and heartfelt pieces of prose, he moved on to Dostoyevsky. The crabs were blind drunk by this point, but they still seemed affected by the deep pathos and dark truth of the master and shuddered, as if sobbing. They became very still. At this point I thought Melody was going to give the order to move in and kill them all with hammers, or some such thing, but she did nothing.

If you are one of those people who enjoy rare sights, it is enough to watch massed Spetzcrabs enjoy a barrack-room party by moonlight. What happened next was even more extraordinary and entirely wonderful. They began to moult. By a process of heaving pulsation, the 'inner crab' expanded and contracted

and steadily burst out of his old carapace. One by one, the Spetzcrabs left their old shells and stood naked and soft in the cool air – leaving their ordinance behind. When all the crabs were thus transformed, Melody indicated to us to leave the wheelhouse. Sebastian stopped reading and was himself sobbing at this point. 'Frenchman, please get the ice boxes.' Handing me the slotted spatula she said 'Shells and bombs into the coracle'. The Frenchman, good fisherman that he was, immediately grasped the situation and went below, emerging with two large polystyrene boxes full of ice. He began filling them with the disarmed, defenceless, comatose crabs, delicately picking them up by the pincers as if afraid to waken them. Meanwhile, I gingerly scooped the moulted crab-shells and their deadly cargo into the coracle. Melody busied herself with duct-tape and jack-knife, making some kind of lash-up with the kerosene, wire wool and shotgun cartridges. She placed the bundle into the coracle. The bases of shotgun cartridges stuck out like the horns on a mine. By torchlight we scoured the deck and made sure there were no stragglers or missed carapaces. The intoxicated crabs were immured in the cold store below, and the coracle lowered gently over the side into the sea. 'Get the BSA Airsporter,' said Melody. 'With the self-opening tap?' I said, and she smiled. 'It will have to be at extreme range,'

she added. 'Safety first'. I was atop the wheelhouse in no time, the BSA Airsporter (with self-opening tap) in my hand, briskly scissor-and-brushing it (see previous passage). For these tricky long shots I have long since had a Vernier aperture sight fitted in the extreme rear of the heel of the butt, and by pressing a brass button in the butt-plate – similar in looks to the cleaning-equipment flap on the No.4 Lee Enfield battle rifle – the aperture sight pops up. Using the lanyard as an improvised sling, I settled myself into the supine position, adjusted the sight for 70 yards, licked my finger to get the wind speed and took aim at the coracle, now drifting in the moonlight like the funeral barge of an old King of Fife. The brass and copper of the shell bases drew the foresight like a lodestone.

'Fire at will, Papa', said Melody. I pressed the trigger (see previous sequence). The sighing buzz of the Lanes Beattall pellet in No.2 bore could clearly be heard for nearly two seconds, preceding the pop of the shotgun cartridge primer and the whoosh of the nitrocellulose charge. The red glow of the wire wool igniting winked at us like Satan's all-seeing eye. It was several seconds before the paraffin caught and Melody cried out 'Heads down!'. I shot down from the wheelhouse roof and lay flat on the deck, the BSA Airsporter with self-opening tap beneath me. The silent detonation

came as if an enormous hand slapped the boat sideways back across the swelling sea. 'Bullseye, Papa!' cried Melody. Poor Sebastian was screaming by this point, but he stopped with his scream frozen in his throat. Really, Melody should have untied him. We looked up and the sky was full of falling stars, the Thermite charges detonating in the air and plunging harmlessly into the depths of the all-forgiving sea. 'We could have just chucked the bombs overboard, but I thought you would like this better.' Melody said. The Frenchman pressed a large kiss on both of Melody's cheeks. 'Watch it, pal.' she said, but with a smile.

Sebastian was much better after he had fortified himself with a couple of stuffed parathas and some of Elspeth's murg rezala, made from a fine capon who had once gone by the name of Joseph Baldwin. He stuttered a little when he asked Melody 'You aren't really from Student Loans, are you?' She said 'No. I'm sorry. It was a lie. But you can see what we are like. No harm done eh?' She winked at him and he bowed his delicate head in submission. Elspeth told him he could pop round for Sunday dinner any time he felt in need of a good solid meal, something which delighted him. 'But you won't tie me up?'. I gave him my word we would not.

The Spetzcrabs, having returned to civil life, shortly

ended their days in one of Elspeth's cauldrons. We could not find any reference to invertebrates in the Geneva Convention or the Kirkcaldy Protocol, so we judged it apt reparations. They made a large and delicious quantity of spiced, potted crab, with only a hint of vodka about it, and jars were distributed amongst friends, family and the congregations of the Cross Keys and the Kirk. People still talk to this day of the rare, almost haunting flavour of Elspeth's one-time-only 'Red Star Potted Crab'. Melody sent some to the Getty Marine Laboratory which had been so kind as to give her some ecdysone hormone to effect the crab moult, while and I cheekily sent some to the chaps at RAF Leuchars. Thus we ended the war with feasting on the flesh of our enemies.

Sitting in the snug one evening with the Frenchman, we chewed over the events. The noiseless explosive was still a mystery to me. The Frenchman, who had been mixing Talisker with d'Artagnan, said 'C'est le SBV.' 'The SBV? Whatever is that, some type of chemical formula?' – my curiosity was piqued. Slurring his words, the Frenchman said 'No, it means 'Silent But Violent'... it was a special explosive... a Russian told me once.' I pressed him 'What Russian?' Realising the slip, he looked up at me with his great red French fisherman's eyes and said 'One with needs.' And that is all

he would say on the matter. Before he staggered out of the house and onto his bicycle, he said 'Melody, she is a fine woman.' He looked at me earnestly and said 'The female is often more deadly than the male.' and burped. 'Unless he is an elephant. Or a shark.' I corrected. He wobbled off to his caravan.

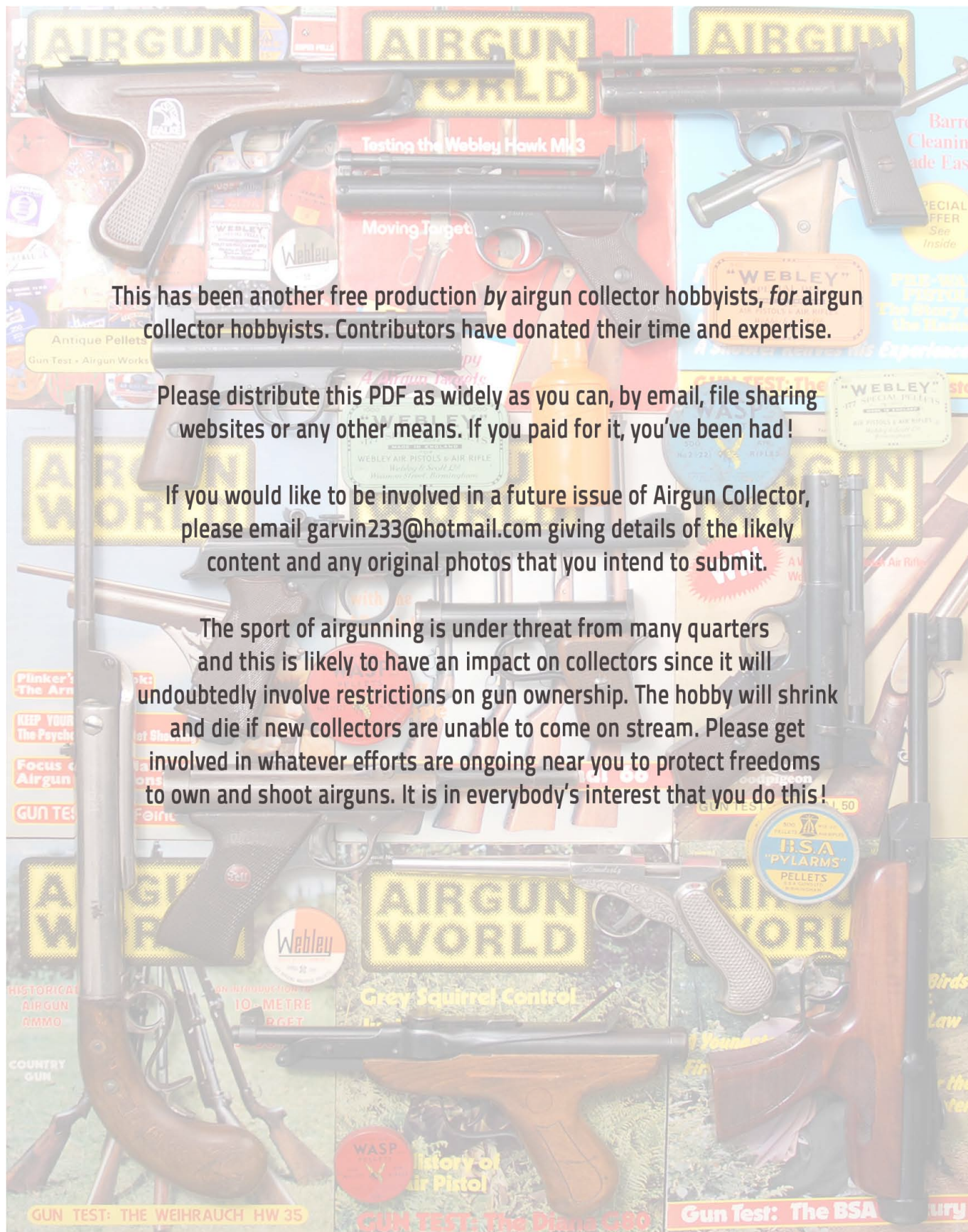
Yours In Sport,

Mr D.

* An extremely vulgar expression, which I had hoped would have no corresponding English idiom. Sadly it appears there is one. However, I shan't translate it for you as my mind is not a midden and neither is yours. I hope.

**See Kipling, Rudyard.

Post Scriptum, To the Enthusiast - The Moisin-Nagant revolver is available as a CO2 pistol 'replica', while the BSA Airsporter in No.2 bore (with self-opening tap) can be found second-hand where ever good air rifles are sold. Because of its enormous robustness, it will be as good as a new one from a mechanical standpoint, whatever scars its finish carries and whatever wars it has been through.



This has been another free production *by* airgun collector hobbyists, *for* airgun collector hobbyists. Contributors have donated their time and expertise.

Please distribute this PDF as widely as you can, by email, file sharing websites or any other means. If you paid for it, you've been had!

If you would like to be involved in a future issue of Airgun Collector, please email garvin233@hotmail.com giving details of the likely content and any original photos that you intend to submit.

The sport of airgunning is under threat from many quarters and this is likely to have an impact on collectors since it will undoubtedly involve restrictions on gun ownership. The hobby will shrink and die if new collectors are unable to come on stream. Please get involved in whatever efforts are ongoing near you to protect freedoms to own and shoot airguns. It is in everybody's interest that you do this!