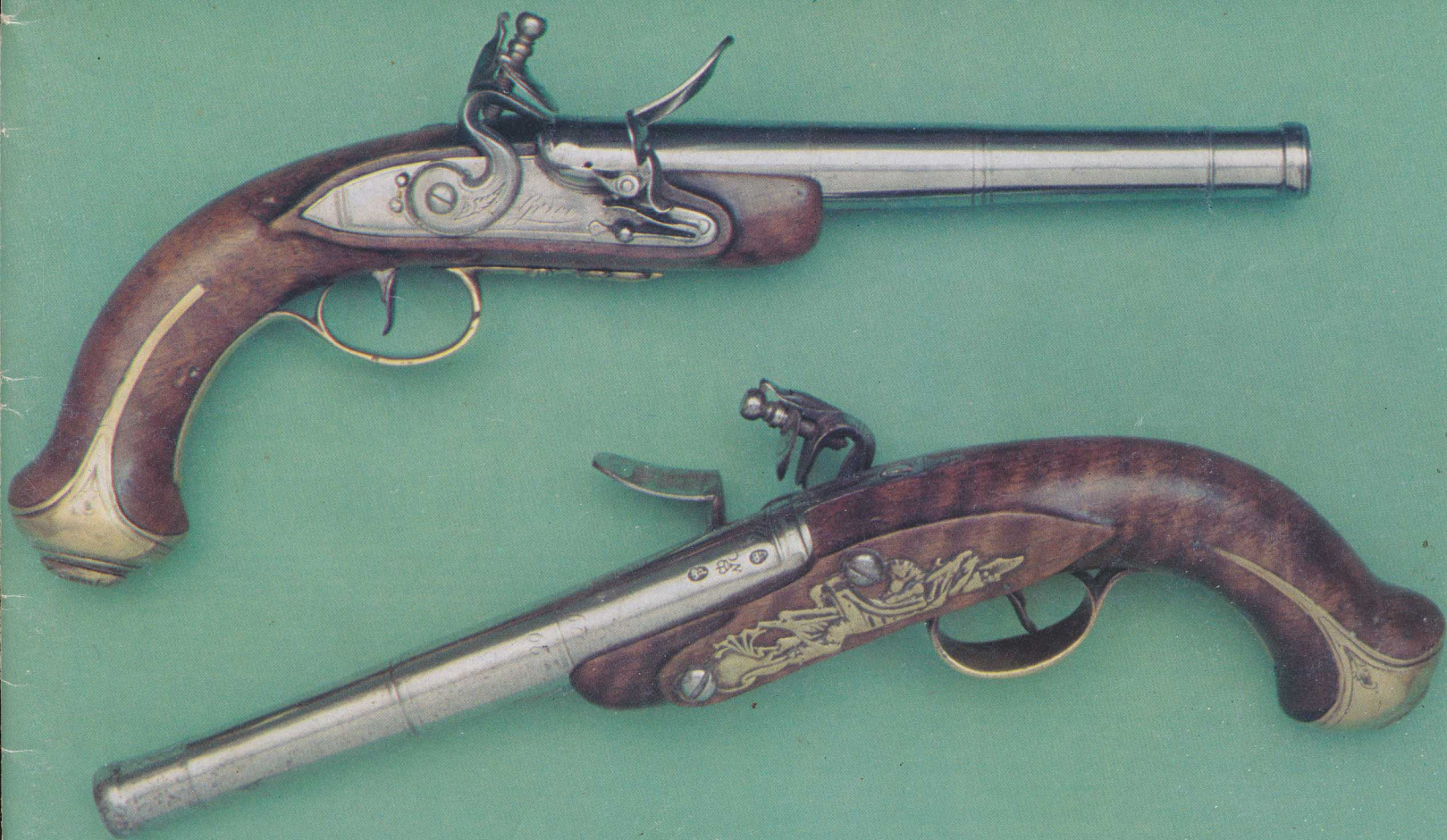


guns review

Volume 25 No. 4

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Price 75p



Airgun Scene
Review of the HW77

A School Project
SAFETY IN SHOOTING

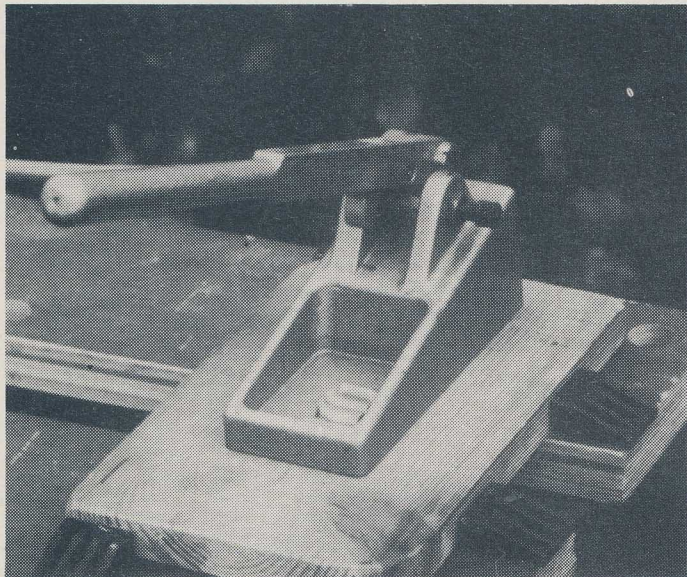
TA90 9 mm. Pistol
Full report and Gun Review

Bullet Swaging for Practical Shooting

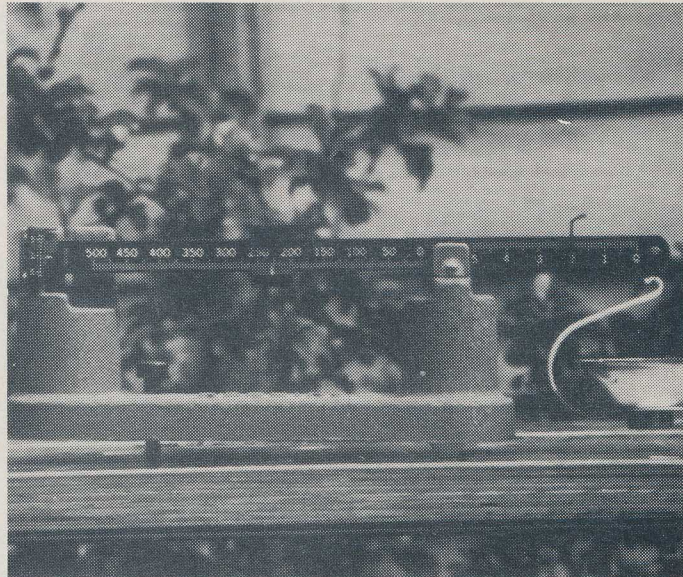
Colour Feature and Report on Wallis and Wallis 300th Sale

SWAGING FOR PRACTICAL

by Chris Boylan



Cutting slugs from lead rod with the Mead & Phasey cutter.



Slugs should weigh a couple of grains more than the finished bullet.

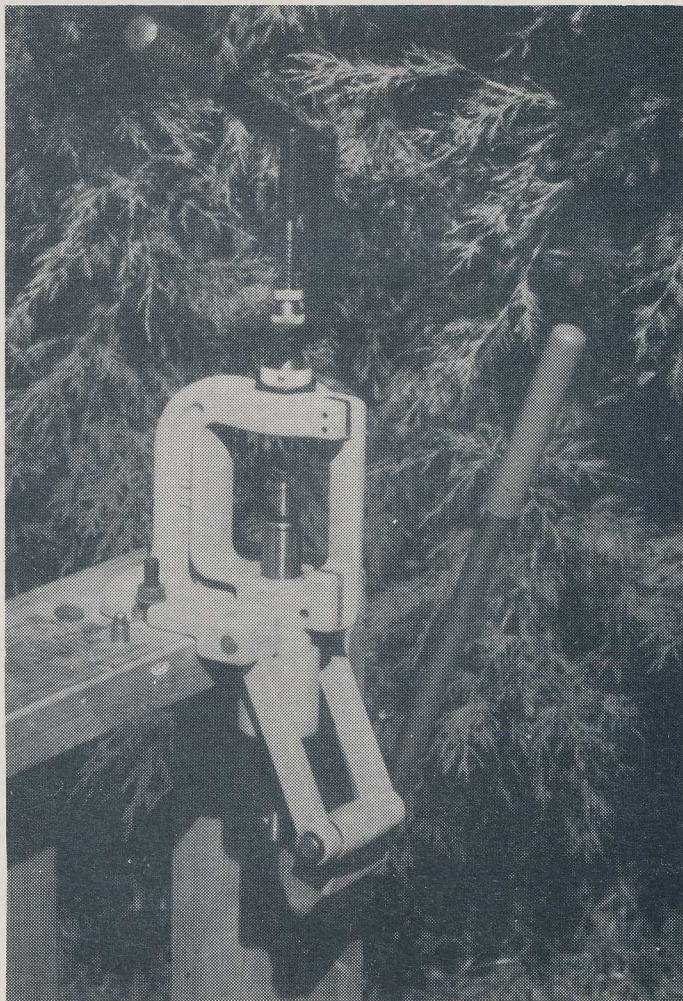
PRACTICAL PISTOL shooters rate the .45 ACP as "Major Calibre". The score factoring makes this cartridge first choice for Practical. There always will be a few with the "North Face" mentality who use a revolver, or those who never score outside the X ring and are happy with the "Minor Calibre" 9 mm. parabellum. For the rest of us, the venerable American service round is the one. Time limit competition burns up ammunition fast, and much practice is needed in order to stay sharp. The fat, dustbin-shaped case of the .45 makes it a fairly easy round to reload. If you can afford to buy all the ammunition you want or can persuade someone else to buy it for you: there are some excellent articles on other subjects in this magazine. If you intend to reload your own cartridges: what follows is a description of how one shooter developed a reliable major calibre load for a plain G70 Colt .45 Auto, using swaged lead bullets.

The .45 Auto requires a jacketed bullet, or one cast from hard lead alloy. Otherwise it will not stand up to buffeting in the magazine and battering on the feed ramp, nor will it take the rifling without dreadful leading problems. So says the conventional wisdom, but is it all true? The humble .22 LR rimfire cartridge is made of soft lead, and the bullet is so lightly supported that it can be twisted out of the case with firm finger pressure. Yet it works fine in a great variety of self-loading pistols and at higher muzzle velocities than the .45 ACP. What is more, if you examine the proof marks impressed on the chamber, you will see that the service pressure for the .22 LR is higher than that for the .45.

For the benefit of new players, swaging is a method of forming bullets under pressure at ordinary room temperature. Not-so-new players may remember an article in the October 1981 *Guns Review* which described the method in some detail. If you are new to reloading, heed a few words of warning. Study a good reloading manual. Acquaint yourself with the problems of excess pressure and how to detect it. Always err on the side of caution. If you are unsure about the loads you have assembled, the Proof House at London or Birmingham will test your ammunition and provide you with a detailed report for a modest fee. The look on the face of a man whose carelessness or ignorance has just destroyed his favourite pistol is not soon forgotten. Fortunately such incidents seldom result in permanent injury to the shooter; but they might.

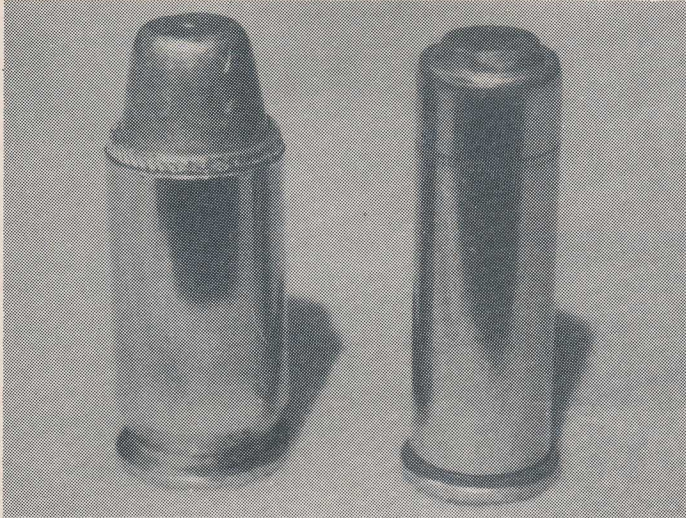
A bullet whose momentum approximates to that of the full service round, is considered to be of *major calibre*. For the purpose of competition it is defined as a fact of bullet weight and muzzle velocity. It can be achieved using a heavy bullet at

NDFS swaging kit on RCBS Rockchucker press.

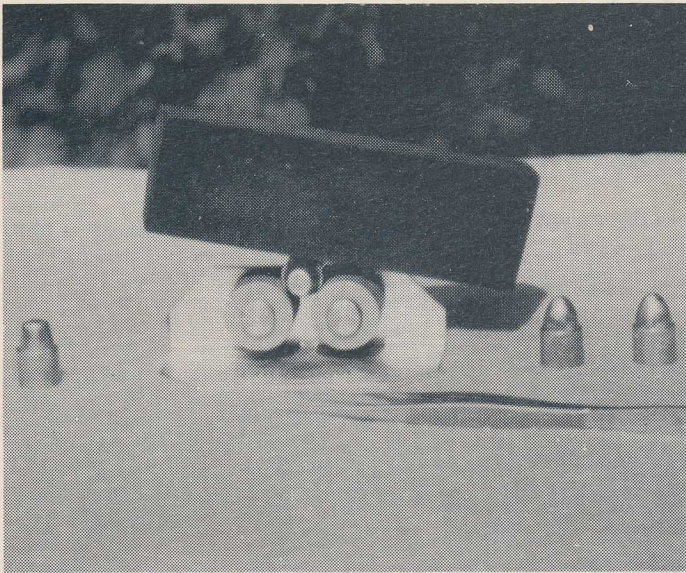




Swaged bullets, two showing metal bleed on nose, others nipped clean. The pointed bullet was for use in a .450" Bulldog revolver.



Loaded cartridges, .45 ACP and .38 Spl. The texturing may be seen on the exposed shoulder of the .45 bullet.



The Wamadet Rolatex tool supplied with rubber block and tweezers for the sake of the fastidious.

standard velocity or a light bullet at high velocity. Bearing in mind the material to be used, it was decided to go for a 230 grain bullet at about 800 f.p.s.

The "Keith-type" semi-wadcutter performs well against falling plates and skittles, and feeds well when seated to the correct depth in the case. One advantage of the swaging method is that the same die can be used with a range of internal punches to provide various bullet shapes. Also a wide range of bullet weights can be produced simply by adjusting the die and cutting lead slugs to the required weight. The swaging die was ordered from Jim Goodwin of North Devon Firearm Services. He took an interest in the project, providing a semi-wad nose punch and no less than four for the bullet base. The base shapes were these:

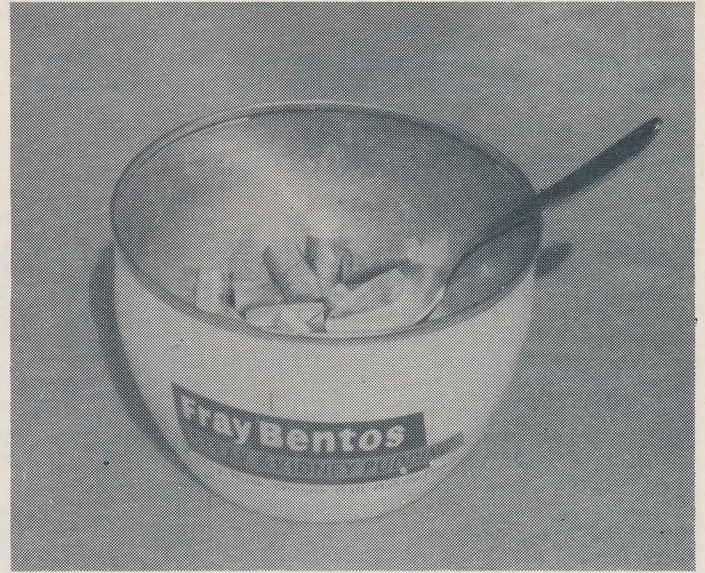
1. A plain, flat, solid base (SB)

2. A hollow base (HB)
3. A solid base with bevelled outer edges (SBB)
4. A hollow base with bevelled outer edges (HBB)

The material most often used for swaging is lead purchased in the form of rod (or "wire") wound onto a reel. It may be obtained from builders' merchants or specialist suppliers in rolls of about 25 kilogrammes. The cost is about £1 per kilo. Rod of .30 in. diameter is suitable for .32 in. or .38 in. bullets. For .44 in. or .45 in. bullets it is better to use rod of .375 in. diameter. Both are standard sizes. Some prefer lead hardened with antimony. It makes



The test pistol. The sights are new but internally it is as supplied.



The Fray Bentos kit for lubricating slugs or finished bullets.

the job of swaging harder and is unnecessary. The finished bullets require lubricating to prevent them from shedding lead on the way down the barrel. Suitable lubricants are wax emulsions such as IWOX from NDFS or Jaciwax from Wamadet. For this project, IWOX was used.

Reloading tables suggest loads for particular "lead" bullets. In fact these refer to hard alloy bullets rather than to surface-lubricated bullets swaged from soft lead. They do provide a useful guide to the correct loading but caution is important. Soft hollow-based bullets in particular can raise pressures by their better gas obturation and increased friction caused by expansion of the skirt of the bullet. The fastest burning powders such as Bullseye and Eley No. 3 are suitable for small calibres and light target loads. For full loads in the .45 Auto, a better choice would be a medium

powder such as Unique or Eley No. 2. With a heavy soft bullet there is the danger that a fast powder could cause excessive "set up" or even melting of the bullet base together with a dangerous increase in pressure. This would show as leading in the barrel close to the chamber and deformation of the spent primer and cartridge case. 6.5 grains of Hercules Unique was the powder charge for all these loads. The cases were Winchester Western nickel-plated and the primers were Remington. Heavier cases or hotter primers might require reduced powder loads.

The lead is cut into slugs of the desired weight. For consistent results, the cutter is set to produce a slug one or two grains heavier than the finished bullet so that some bleed-off occurs in the swaging die. The slug may be lubricated and swaged wet or else the slug may be dry-formed into its final shape. If the latter course is followed, the bullet must be impressed with a surface texture and then lubricated. Once the spare metal is nipped off, the bullets are loaded in the ordinary way. In this case, some leading was encountered with wet-swaged bullets, and a little more lubricant appeared to be required. Accordingly the bullets were formed dry. A Wamadet Rolatex tool was used to apply a surface cross-hatching to the finished bullets. They were stirred in a pudding basin containing a teaspoonful of IWOX and left under a dust cover to dry for a few hours. The bullets were loaded, taking care to bell the case mouths so as not to scrape lubricant or lead from the surface of the bullet. All the various bullet shapes were seated to the same depth in the case and labelled to differentiate between the four base shapes. They were range-tested and chronographed. The various stages in the process are shown in the accompanying photographs. The results of the chronograph test are shown in the table.

Several hundred bullets made as described have been fired with no feeding or leading problems. The swaging method is easier and

more versatile than casting; it is also safer and does not produce smoke and smell. Swaged bullets tend to be of regular weight with no internal voids. Extensive accuracy testing has not been carried out but experience with these bullets suggests that tight groups may be fired and fewer unexplained "fliers" occur than with cast bullets. Point of aim changes slightly with the four different base shapes: it would be as well to standardise on one. For the same amount of powder, the Hollow Base gives highest velocity. The Plain Base is quicker to swage because it falls off the base punch when ejected. Bevelled corners on the base of soft lead bullets offer no particular advantage and probably negate some of the superior obturation of the hollow based bullet. If your pistol has a worn barrel, or if you wish to use the bullets in several pistols whose barrels differ slightly in internal diameter: use the Hollow Base. Otherwise you might as well use the Plain Base. The writer is always interested to hear about the experience of other reloaders and (as long as you do not demand instant attention) would be happy to answer any correspondence addressed via Guns Review.

Some Addresses:

Jim Goodwin, North Devon Firearm Services, 3 North Street, Braunton, N. Devon EX33 1AJ Tel: (0271) 813624 Swaging and Reloading Equipment, IWOX Bullet Dip.

John Ellis, Wamadet, Silver Springs, Goodleigh, Barnstaple, Devon Tel: (0271) 71194.

Wamadet Portapress Swaging and Reloading System.

Rolatex Tool, Jaciwax Lubricant.

Heaps Arnold & Heaps Ltd., Clarence Road, Leeds LS10 1UB Tel: (0532) 432519 — Lead Rod.

B.L.M. Girdler, Dormay Street, Wandsworth, London SW18 1JD Tel: 01-870 1461 — Lead Rod.

Letters to the Editor

Opinions expressed are those of our correspondents and GUNS REVIEW does not necessarily associate itself with them. Correspondents are reminded that replies or acknowledgements to their letters can only be sent if a stamped self addressed envelope is included.

Firearms Used in Crime

Sir,

Much is made by our antagonists about the so called "ease" with which shotguns can be obtained. They point to the fact that a shotgun certificate allows its holder to have as many guns as his purse will allow and allege that these get into the hands of criminals because the police have no record of the numbers.

Shotguns recovered by the police at the scene of a crime or when a criminal is arrested are likely to have some identifying mark. There must be a maker or importer with records of sales. Retailers also keep records so that the original purchaser should be readily traced. Through him the last lawful owner should also be fairly easy to trace.

The fact that one rarely hears of a case in which a legitimately held shotgun is used in crime and subsequently traced back to its owner suggests that legally held shotguns are not used in this way.

The situation with rifles, pistols and short barrelled shotguns is even easier. They are extensively recorded on police files.

Spare the thought, but is it that after all that expensive paper work, a recovered Section 1 firearm cannot be traced back to its original owner, or is it that firearms used in crime have, as a rule, never been legally held?

Lancs

R.M.

Handgun Power

Sir,

I have read with interest the review of the Beretta 92SB which I found very informative. I would, however, like to pass comment on the author's statement, "It is a trade-in of the 45 ACPS's stopping power for the 9 mm.'s penetration and increased fire capacity . . ." My comments are not my own opinions but are based on tests recently reported in the US publication, "Combat Handguns".

Testing on four types of ammunition, one hardball, two hollow-points and the Glaiser safety slug, the 9 mm. equalled or exceeded the stopping power of the .45ACP in all ammunition types except the hardball. The test medium used was ballistic gelatine which is normally used by the military to determine stopping power.

The results surprised me but the evidence seems now to show that the .45ACP and the 9 mm. should rank equally for power in practical pistol shooting.

Newport
Isle of Wight

M. J. Parker

Police Efficiency

Sir,

I note with interest the comments on this subject in your columns. In October, my

new application for a firearm certificate was returned to me by post within 7 days of the inspection of my security arrangements, which was done at a time and date stipulated by me. The West Midlands Police can be classed with more efficient forces, in my experience.

I think that perhaps my experience is not exceptional and most police forces' performance is comparable. However, in a "by exception" control situation *Guns Review* is right to call attention to those occasions where police performance appears to have been less than adequate.

West Bromwich

E. J. Mackenzie

Bullards

Sir,

I am writing a book about the Bullard Repeating Arms Company of Springfield, Mass., USA (circa 1882-1890). They made single shot rifles as well as their repeaters.

I would like to contact any of your readers who owns or has seen Bullard's firearms for the purpose of cataloguing them by serial number, calibre, etc. I have a questionnaire which I send to owners and would be grateful for a photograph of specimens.

Any help will be greatly appreciated and proper credits will be given.

6015 Chidham Cres,
Mississauga, Ontario,
Canada, L5N 2R8

Scott Jamieson