

FREE THINKING ABOUT THE FREE PISTOL

THE OLYMPIC EVENT WITH THIS PISTOL HAS A SPECIAL AND EXCLUSIVE REPUTATION AS THE ROYAL DISCIPLINE FOR PISTOL SHOOTERS, SIMILAR TO THE THREE-POSITION MATCH FOR RIFLE SHOOTERS. THE WORD FREE IS AN APPROPRIATE NAME FOR THIS ATHLETIC IMPLEMENT. IT'S THEREFORE NOT NECESSARY TO ADD THE ACTUAL TERM PISTOL TO IT. IT DOESN'T LOOK LIKE A PISTOL AT ALL BUT MORE LIKE A FORMULA ONE RACE CAR AMONG ORDINARY ROAD VEHICLES. THE FOLLOWING TEXT DEALS WITH DEVELOPMENTS, IDEAS AND OPINIONS PERTAINING TO THIS PISTOL DISCIPLINE AND IS A COMPROMISE BETWEEN PURELY THEORETICAL AND TECHNICAL DESCRIPTIONS FROM TABLES OF GRAMS, MILLIMETERS AND SECONDS IN GUN MAGAZINES AND THE ACTUAL SHOOTING PRACTICE DESCRIBED BY TRAINERS AND SPECIALISTS IN TEXT BOOKS AND ARTICLES WRITTEN FOR SPORT SHOOTERS.

HISTORICAL DEVELOPMENT

When the world shooting federation established the rules for this pistol event for the Olympic games of modern times in 1896, 30 shots were fired with big-bore cartridges at a distance of 30m and then later at 50 yards (45m). In 1912, Alfred Lane of the USA won the Olympic gold with 499 points under the same conditions still used today.

The fact that there have been no changes in this respect was and still is due to the purely athletic challenge of this event. The shooter is supposed to hit only the center of the target – use one hand instead of both hands to hold the pistol while shooting, fire each shot within two minutes instead of fractions

of a second and use ammunition only for precision instead of penetrating power and targets that are round instead of human-like in shape. The ISSF statutes only prohibit the support of the wrist, require mechanical sighting, the .22 caliber long rifle and single loading. Permitted are all sorts and sizes of barrel lengths, sight lengths, total weight, trigger weight and total measurements.

The fact that these regulations still meet today's standards and that only a few new developments and inventions pertaining to optics and electronics have been prohibited in the meantime is due to the fact that the majority of the new technical possibilities – synthetic materials, computer-supervised production, half-automatic sport pistols, adjustable

ELECTRONICS

A theoretically ideal improvement, which was not adopted however, is the electronic trigger. Since the 1980's, the market for several electronic models has only risen to a maximum of 25%. The main reason for the lack of interest here is that the minimal time gained - thousandths of a second - involves a risk: "hopefully, the battery won't die or the electronics won't fail during the competition".

From the standpoint of mental training, this time reduction may even have a disadvantage. Thinking about and visualizing the actuation of the trigger is not possible in one

hundredth of a second or less. This is only possible in tenths of a second. The thousandth seconds of electronics irritate the brain's reaction to the forefinger and tempt the shooter to tear the shot. A completely different advantage of the electronic trigger, which would pose an unsportsmanlike problem, was prohibited by the UIT/ISSF. The trigger must be actuated by the hand holding the pistol (item 8.4.2.4.1 of the 2001 edition). What does this mean? The musculature of the trigger finger stimulates the other muscles of the hand and may activate them. Although the familiar tear, which is a jerky hand movement, is light with the light trigger weight of the FREE, it is nev-

ertheless a source of error that should be avoided. If a right-handed shooter were to leave the steady holding and aiming up to his right hand and actuate the trigger with his left hand from his trouser pocket, would there be a new "Beamon jump" instead of the 581 by Melentjew? It would be even more eccentric and naturally prohibited, if the shooter could relax his left hand and let the coach, who is in contact with him via video, actuate the trigger. At the very least, this would be an interesting experiment.

MORITZ MINDER

For the next theme, let's jump back in time to more than two decades ago and take a look at a successful and sensational idea in those days and its later failure. Moritz Minder of Switzerland won the 1978 world champion title in Seoul with a world record of 577 and did this while using a very unique stance. He canted and twisted his FREE 70° to the right, holding it almost flat (the sight was reconstructed to fit this position) when shooting. The reason for his peculiar stance was a previous elbow injury which prevented him from holding his arm in the usual vertical position. As a consequence of his record performance, gun companies developed accessories to accommodate this position but soon abandoned the idea since no one was able to cope with it. The legendary "Minder aiming position" mo-

tivated me in the course of writing this article to put this shooting position to a practical test. The front-sight saddle of the Steyr FP with its infinitely adjustable torsion was the obvious choice for this test. Since the rear sight can only be twisted to a maximum angle of 30°, a black piece of metal or plastic, shaped like the rear sight of the top side, was screwed and taped to the FREE.

After the technical reconstruction, tests at several training sessions showed the advantage of this position: the three fingers grasping the grip were not exposed to any pull or pressure on the surface, which would lead to tension, but only to a neutral strain through the weight of the pistol; the advantage is that not only the brachial muscle of the lower arm is strained but also the triceps of the upper arm which in turn relieves the former muscle;

the disadvantage is that the muscles in the nape of the neck are more strained and have to be constantly controlled;

the disadvantage is that the weight of the barrel and action bolt at the side of the arm and hand, instead of above it as usual, (less for the Steyr FP with its low lying and thus less laterally positioned barrel than for all other FREEs) leads to even stronger canting and torsion which also requires constant control. The overall result of this test – number of points on the targets – was no better than the scores achieved during normal shooting. This test merely served as a confirmation of the scores achieved back then. The Minder aiming position was used as a technical aid after his arm injury and was above all a psychological basis for this unique shooter – and no other but him – to shoot a world record.

THE MIRROR SIGHT OF RUESS

This idea from the special field of optics was so effective and advantageous that the UIT/ISSF had to prohibit it.

A basic problem with aiming is that the eye is supposed to sharply see three objects (rear sight, front sight and target) at various distances. But this is impossible, since the rays from the far-away target are nearly parallel upon reaching the eye, while the rays from the front sight are less parallel, and the ones from the rear sight arrive at an even greater angle. It would be an obvious advantage for the shooter, if all rays were just as parallel as the ones from the target, so the eye could focus on them simultaneously. That's exactly what the mirror sight of the Swiss shooter, Reiny Ruess, did in the 1960's. Instead of a rear sight, it has a small black triangle, and instead of a front sight, it has a concave mirror, in whose focal point the triangle is found. Its reflected image is thrown back into the eye, whereby the rays are transformed by the mirror's curvature so they are just as parallel as the ones coming from the target. By this means, both the triangle and the target appear focused, and the shooter

only has to bring the peak of the triangle, located at the mirror's upper edge, into line with the target. Both eyes remain open while aiming, and the left eye focuses on the target.

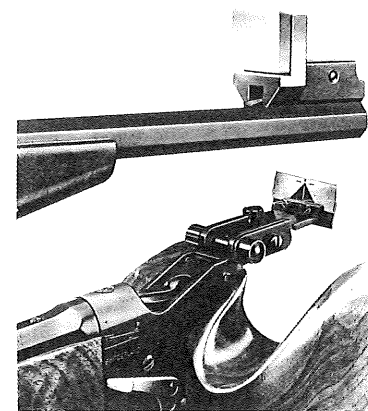
Having paid a visit to Minder and Ruess in the past as well as having taken a look at present-day electronics, let's now attempt to catch a glimpse of some future ideas and visions. Taken from current topics of discussion, including minor comments, in specialized articles, the following features could be used in the practice of FREE shooting in the future:

- a front ring sight instead of a front cross sight which has been adopted by rifle shooters as the better optical aid in every respect and which would require a round notch in the rear sight instead of the current square one;
 - an inverted front sight (and rear sight) which would sit on top of the target, when the shooter takes aim, and thus offer greater mental relaxation during the aiming procedure, as opposed to the strain of raising the sights from below the target;
 - a trigger that need not be pulled but only released to fire a shot (release trigger).
- An idea already tested in practice is the simplification of training with the FREE. It's usually hard to find 50m ranges for hand guns,

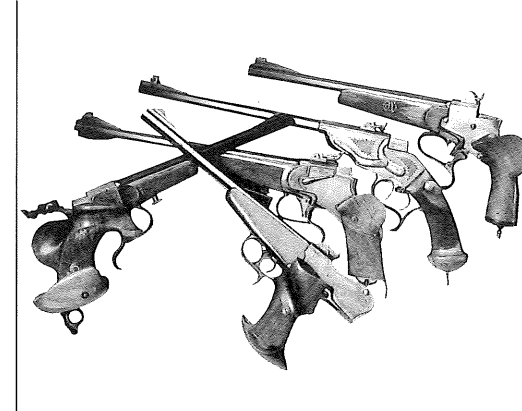
since nearly all events require a 25m distance. Training on a 25m range with smaller targets is a logical solution for this problem. However, it is even more simple to shoot at an air pistol target 14m away. It appears just as large as the original target at 50m, though somewhat sharper, and only requires an initial adjustment of the sight, since the shot would otherwise yield a low 7 or 8. The small advantage of using a larger caliber on the AP target is counterbalanced by the small disadvantage which occurs with the parallel, sideways swaying of the shooter: 2 cm offside produces a 10 on the 50m target but only a 9 on the AP target. The actual swaying of the shooting arm in all directions - up, down and to the left and right – around the shooter's body, which acts as a pivot point, has the same impact on the results at both distances.

This was popular information from the theory and practice of the royal pistol discipline, free shooting, which, apart from the opportunity to compete in elite sports ranging up to the Olympic games, also offers the pleasure of viewing and practicing the shooting sport as a cult and an art.

Hannes Rainer



PICTURE 1
Front and back parts of the Ruess sight.



PICTURE 2
The FREE during the period before and after World War I, comparable to Anschuetz 300 A, Neumann Center, Tell Buechel System, Haenel Aydt System, Stoetzer Perfect.



PICTURE 3
The wonderful (left-handed) grip replaces the Morini CM 84 E back then despite the electronic trigger.