An auxiliary sight device for shotguns, for anchorage on the barrel or double barrel of the shotgun, includes at least one swivelling item (7) with an articulation axis (9) in respect of the auxiliary sight (6), in which the swivelling item (7) is fitted with a pin (8), at the end opposite to its articulation, so that the direction of the line that visually links the shooter’s eye with the end of the pin (8) has a divergence in respect of the axis of the barrel of the shotgun (3), adjustable in different predetermined positions.
AUXILIARY SIGHT DEVICE FOR SHOTGUNS

[0001] This invention refers to a device for adjusting a shotgun sight which can be fitted at the end of the single or multiple barrel of a hunting shotgun, particularly useful in clay pigeon shooting.

[0002] At the front and rear end of their barrels, shotguns have two indicators which, when aligned, determine a line parallel to the axis of the barrel, which is used to guide the shot in the required direction. The front indicator (the one at the exit end of the shot) is set on a base welded to the barrel.

[0003] The modality of clay pigeon or skeet shooting is a form of sport in which a clay disk is shot into the air, describing a curve at a certain speed. Each disk is flung up by means of a throwing machine, taking different directions at random. Depending on the shooting modality, the disks are thrown from more than one machine.

[0004] The shooters stand in different positions at the shooting range, so that the relative position in respect of each of the throwing machines is different, and particularly the angle of the shot trajectory in respect of the disk trajectory angle.

[0005] Furthermore, from when the shot is fired until this reaches the position of the disk a certain time elapses, during which the disk continues along its trajectory. This means that the shooter has to aim at the position in which the disk will be when the shot reaches that distance. That distance is furthermore variable depending on the shooter’s position.

[0006] Shotguns nevertheless have a central sight, meaning that it is the shooter who has to control the degree of advance of the shot trajectory.

STATE OF THE ART

[0007] There have been descriptions of devices for altering the alignment of the sight in respect of the line parallel to the barrel axis, to anticipate a more or less regular displacement of the objective, for as long as the fired charge takes to reach said objective.

[0008] U.S. Pat. No. 4,223,446 describes a sight device set at the front end of a shotgun, in which an auxiliary sight is set at a certain distance at both sides.

[0009] U.S. Pat. No. 2,458,658 discloses a sight device similar to the previous one, in which this is secured by means of a strip wrapped around the single or multiple barrel.

[0010] U.S. Pat. No. 2,056,469 describes a sight device which comprises lateral indicators which determine the visible scale of a target, and thus its distance and the time lag of the shot to be fired. This device comprises a calibrated visor which enables adjusting the aim depending on the visible relative size of the part to be hit and the envisaged displacement of the target.

[0011] There have however not been any descriptions of any devices with variable adjustment depending on the shooting position in practising clay pigeon shooting.

DESCRIPTION OF THE INVENTION

[0012] The invention being disclosed consists of a sight device for sports shotguns, particularly for practising clay pigeon shooting, which is set at the front end of the shotgun barrel, elastically secured by means of a clamp, screwed or sliding onto the weapon’s sight support, and which comprises at least one, and preferably two, articulated items able to be secured in certain predetermined positions, consisting of a sight element that at angular positions other than 0° determines a displaced vision of the central sight. These articulated items are set in one position or another depending on the shooting position in which the shooter is located at any time, and depending on whether the target is launched from the shooter’s left or right.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] In order to illustrate the following explanation, we are adjoining three sheets of drawings to this descriptive report in which the essence of this invention is represented in seven figures, and in which:

[0014] FIG. 1 illustrates a schematic view of an example of a clay pigeon shooting range in which there are two clay pigeon throwers;

[0015] FIG. 2 illustrates a schematic perspective view of a shotgun fitted with a support for a conventional sight;

[0016] FIG. 3 illustrates a schematic perspective view of a shotgun fitted with the auxiliary sight device according to the invention;

[0017] FIG. 4 illustrates a schematic perspective view of the auxiliary sight device for shotguns according to the invention, provided with a pair of swivelling items in withdrawn position;

[0018] FIG. 5 illustrates a schematic perspective view of the auxiliary sight device of FIG. 4, with one of the swivelling items in a first rotation or swivelled position;

[0019] FIG. 6 illustrates a plan view of the sight device according to the invention, in which different positions of the swivelling items can be seen; and

[0020] FIG. 7 illustrates a schematic perspective view of the auxiliary sight device according to the invention, with its two swivelling items fully open.

DETAILED DESCRIPTION OF THE INVENTION

[0021] Shotguns (3) comprise a front sight (5) and possibly a rear sight (10). The alignment between the front sight (5) and the rear sight (10) provides a sight line parallel to the axis of the shotgun barrel (3). The exit speed of a shotgun shot is relatively slow as compared with other types of weapons, for which reason, when the target is moving at a fairly fast transversal speed, the shot has to be fired at the place which the target will reach when the shot reaches the corresponding distance. The shooter’s delay time in firing the shot from when he or she aims at the target also has to be considered.

[0022] In certain clay pigeon shooting ranges there are two disk throwers (1a, 1b) one placed on the left and one on the right, respectively, as well as certain shooting positions (2), from which the shooter fires. The shooter gradually moves from one shooting position to another, for which reason the launching point is variable, as well as the trajectory of the disk in respect of that of the shot.

[0023] The shooter should thus always aim at a position which the target will reach at a later point, which makes the probability of hitting it considerably harder.

[0024] There are shotguns in which the front sight (5) is set on a plate (4) welded or joined to the barrel of the shotgun by any other means. In others the front sight (5) is fixed to the barrel by means of screws, and in others it is held on by a clamp.

[0025] The invention, as already stated, consists of an auxiliary sight device (6) for shotguns (3) which can be secured to the barrel of a shotgun for example by means of insertion,
clamping or screwing, depending on the way the conventional front sight (5) is fixed, or also stuck on with an adhesive, by magnetic adhesion or pressure-fitted on the plate (4).

[0026] Said auxiliary sight (6) is fitted with at least one and normally two swivelling items (7), one of which is closer to the end of the barrel than the other, in which each of said swivelling items (7) is fitted with a pin (8) and which is also provided with an articulation spindle (9). The pin (8) points upwards and is located at the end of the corresponding swivelling item.

[0027] The swivelling items (7) are able to rotate in predetermined angular positions. Hence, a vertical line parallel to the axis of the barrel (or the barrels) is determined between the rear sight (10) and the front sight (5). It is nevertheless possible, according to the invention, to determine an alignment of the rear sight (10) and the pin (8) of the swivelling items (7), particularly when these are displaced at an angular position other than 0°. The alignment may however also be made between the eye and the pin (8) with the shotgun in firing position.

[0028] Hence, when a disk is called for and this appears from the left, the sight can be aligned to the left-hand swivelling item (7) so that the barrel will point further right. When the shot is fired, the speeds of the projectile and the target will produce a convergent time and point of encounter. The angular position is variable, particularly depending on the firing position. For example, if the shot is fired from a position very close to the thrower, the trajectories of the projectile and target will have very little log angle, for which reason it will not be necessary to alter the aiming alignment. On the other hand, if the angle is very large, it will be necessary for the aim at the target to also have a large alignment. (11) is used to designate a line indicating the visualisation direction divergent from that of the barrel axis.

[0029] For this reason, the auxiliary sight device according to the invention comprises a graduation to be able to move out each of the swivelling items (7) to the required position, depending on the shooting position. The design also includes an elastic retaining means for holding in the positions of the swivelling items (7) corresponding to each of the alignment alterations in turn corresponding to each of the shooting positions (2).

What is claimed is:

1. An auxiliary sight device for shotguns, which comprises:
   - a securing device for securing the auxiliary sight device to
   - at least one barrel of a shotgun;
   - at least one swivelling item with an articulation axis in
     respect of the auxiliary sight device about which each
     swivelling item is adapted to rotate, each said swivelling
     item fitted with a pin at an end thereof opposite to that of
     the articulation axis, so that a direction of a line that
     visually links an eye of a shooter with an end of the pin
     has a divergence in respect of an axis of the at least one
     barrel of the shotgun, wherein each swivelling item has
     predetermined positions corresponding to each of shooting
     positions on a clay pigeon shooting range.

2. An auxiliary sight device for shotguns, according to claim 1, wherein said at least one swivelling item comprises
   - two swivelling items, one set closer than the other to an end of
     the barrel.

3. An auxiliary sight device for shotguns, according to claim 1, wherein swiveling item has a graduation of a corresponding rotation position.

4. An auxiliary sight device for shotguns, according to claim 1, wherein swiveling item has an elastic retainer for holding the respective swiveling item in the predetermined positions.

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