

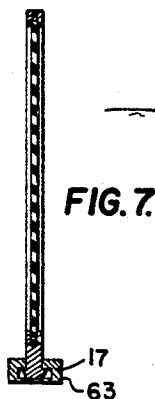
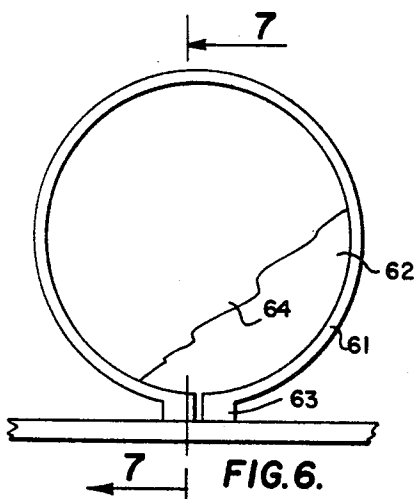
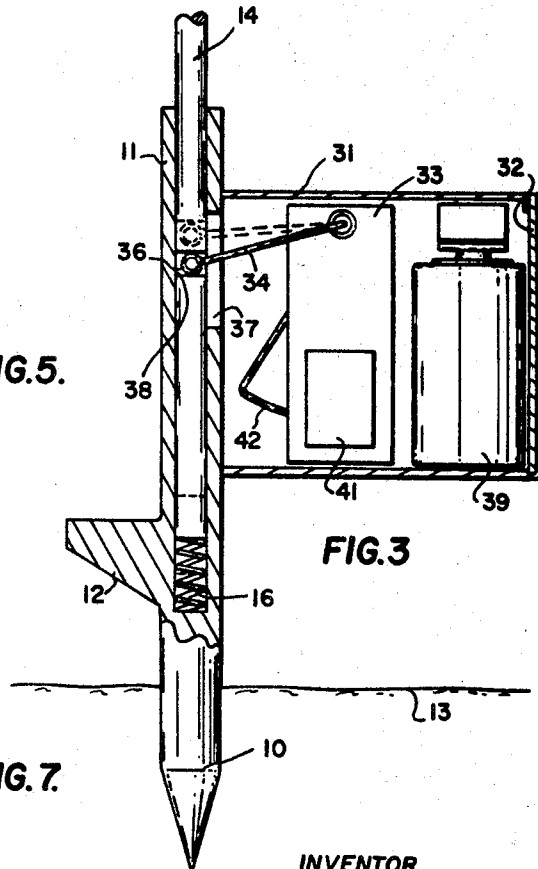
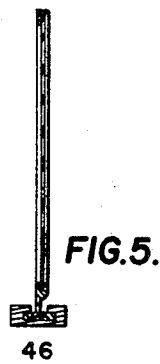
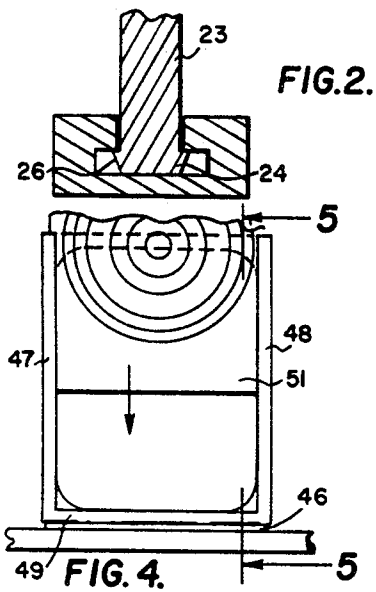
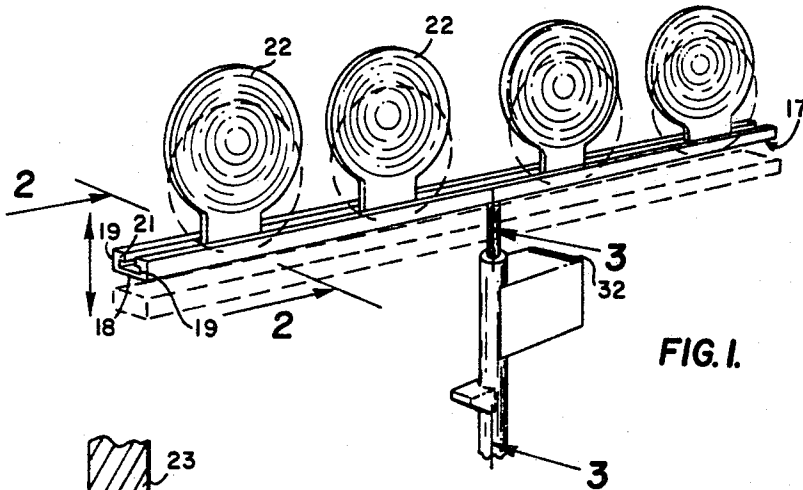
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TARGET AND SUPPORT WITH SNAP-IN FEATURE

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1

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TARGET AND SUPPORT WITH SNAP-IN FEATURE

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1 Claim. (Cl. 273—102)

ABSTRACT OF THE DISCLOSURE

A target combination including a ground-supported stake having a transverse channel secured thereto; the channel accepts a plurality of target-supporting frames, each being capable of longitudinal movement in the channel and, alternatively, each being capable of "snapping" into the channel without longitudinal movement. Each target frame surrounds a self-supporting target constructed of a substantially monochromatic color to facilitate seeing holes therein produced by projectiles passing therethrough.

My invention relates to an improved and novel target combination, and particularly a target combination which is very convenient to set up in any open area at a sufficient distance from human habitation.

Except for mechanized target paraphernalia such as the type commonly found in a so-called "shooting gallery" found in amusement parks, targets employed for testing hand gun or shoulder gun accuracy have continued to be of a stereotype character. Almost universally, they comprise a black pattern of some kind printed on a cheap grade of white paper, and the pattern very frequently includes a black "bull's-eye" and a plurality of concentric rings of graduated diameter surrounding the "bull's-eye." Such targets can sometimes be used reasonably satisfactorily in a specially designed target range where markers present in a protected area near the target telephone or otherwise indicate to the shooter or an official, the result of each shooting effort. In some instances, also, and this usually involves shooting with small target arms such as 22 caliber rifles, shooting occurs at relatively small targets at relatively short ranges through steel pipes of about thirty inches in diameter. As part of such installations, there is frequently mechanism for running an entire target on a trolley-like mechanism up to the end of the tunnel from which shooting occurs, so that the target can be examined directly at suitable intervals, and replaced when the useful life of the target has been expended.

By far, the greatest amount of shooting is done for practice on an informal basis, and frequently for the purpose of practice prior to going hunting, for the purpose of checking sights on rifles, and frequently for pleasure and companionship, such as when an older person will instruct younger people in the use of firearms, and no established gallery or range is immediately available. In such instances, paper targets will be tacked onto corrugated paper boxes, or supported in some other crude fashion in front of a bank of earth such as a steep hill, or the like, or at the side of a gully formed by erosion. While this manner of shooting is very prevalent in many parts of the country, it leaves a great deal to be desired from many standpoints. In the first place, a make-shift target holder very seldom will hold a target still with dependable security, and even at relatively short distances, say, at 50 to 100 yards, it is impossible to see a hole through a black background made by a projectile, even with relatively high power binoculars. It is frequently necessary after each shot to walk up almost to the target to check the accuracy of the last shot, and sometimes to make adjustments in the position of the target. This requirement makes it

2

almost impossible to set up two or more targets in reasonably close proximity, because of the danger involved in having to expose ones-self to projectiles in the general area of the target. Because of problems of this kind, it is not at all uncommon for people practicing shooting to set up bottles which will shatter if hit, or to use as a target a relatively small can which will show by its movement that it has been hit. So far as I am aware, no satisfactory target supporting device is available for use in the open for unsupervised rifle or hand gun practice.

Accordingly, the principal object of my present invention is the provision of an improved target combination particularly adapted for use in open areas for target practice.

Another object of the invention is the provision of a target combination wherein the efficacy of a shot effort can be readily determined from the location where the shooting occurs with a binocular or scope of ordinary power.

Still another object of the invention is the provision of a light weight, easily carried target supporting device adapted to support various types of targets in either a stationary condition or with movement imparted thereto.

A further object of the invention is the provision of a target combination adapted to utilize various types of targets, and where the targets themselves are associated with the target supporting mechanism forming a part of the combination.

A still further object of the invention is the provision of a novel target combination which is very convenient to transport and use, and which is particularly effective and practical when shooting for pleasure or instruction is the object.

Other specific objects and features of the invention will be apparent from the following detailed description taken with the accompanying drawings herein:

FIG. 1 is a perspective view showing one embodiment of my invention;

FIG. 2 is an enlarged fragmentary sectional view taken on the line of 2—2 of FIG. 1;

FIG. 3 is an enlarged fragmentary sectional view taken on the line of 3—3 of FIG. 1;

FIG. 4 is a fragmentary, elevational view showing a modified form of target and holder therefor;

FIG. 5 is a sectional view taken along the line of 5—5 of FIG. 4;

FIG. 6 is a fragmentary elevational view showing still another form of target and holder therefor, and

FIG. 7 is a sectional view taken along the line of 7—7 of FIG. 6.

Looking now first at FIGS. 1, 2, and 3, the target support of my present invention may comprise a pointed stake with a tubular integral upper portion 11 and a projecting step 12 for forcing the pointed end of stake 10 into the ground, the level of which is indicated illustratively by the broken line 13 in FIG. 3. A vertical rod 14 is reciprocally supported in the tubular upper portion 11 and rests on a coil spring 16 which is partially in compression due to the weight of the rod 14 with the target combination supported thereby.

While the parts comprising the stake 10 and the vertical rod 14 may be made of many materials, suitable plastic materials which can be molded to final shape are particularly desirable. In such a case, a transverse channel shaped member indicated generally by the reference character 17 is supported at the top end of the vertical rod 14 in any suitable manner such as by plastic welding. The channel shaped transverse member 17 includes a web portion 18, legs 19, and inturned edges 21 leaving an upper slot which is narrower than the channel proper, as may be seen on the left end side of FIG. 1, and as seen also particularly in FIGS. 2, 5 and 7.

A plurality of targets 22 are adapted to be supported

on the transverse channel shaped member 17, the number of such targets being subject to selection, depending upon several factors. Whatever the number, each of the targets has a supporting base 23, and an enlarged bottom portion 24 shaped like an inverted truncated triangle, the bottom edge of which is slightly narrower than the upper slot in the transverse channel shaped member 17. The bottom portion 24, therefore, is provided with two shoulders 26, so that the targets may be pressed directly downwardly and the edges 19 of the channel member forced outwardly to permit the bottom portion 24 to lodge in the channel with the shoulders 26 engaged under the inturned edges 21. Thus, the targets 22 may be quickly and conveniently inserted in position, and once placed in position, will be held firmly against dislodgement. It will be noted, however, that the targets may be moved longitudinally along the channel to space them from each other in any desired manner, or to insert or remove them.

While the targets 22 may be marked in any convenient or desirable way such as by the use of a "bull's-eye" in the center with concentric rings, as shown, I preferably construct this type of target of a frangible material such as plaster, ceramics, dried argillaceous material pressed but lightly sanded, powdered lignin such as may be obtained from sawdust or ground tree bark, certain plastics, and many other such materials. A preferable consistency of the material is one in which the entire target will shatter if a projectile strikes the "bull's-eye," but which will sometimes take only a small section out of an edge if the target is not hit squarely in the center. There are various ways in which this result can be obtained including the choice of materials used, and by making the target somewhat thicker in the center and progressively thinner as the side edges are reached.

The target may be used in a stationary position, or I may impart motion thereto by a simple expedient such as indicated in FIG. 3.

The stake 10 carries on its upper tubular portion an integral housing 31 with a sliding closure panel 32. A simple type of electro-magnetic motor device 33 has an arm 34 moved downwardly by the device 33, but having an enlarged end 36 which extends through a channel 37 in the tubular portion 11 and into a slot 38 in the rod 14. A suitable battery 39 provides a source of power and an electro-magnet, indicated generally by the reference character 41, attracts an armature 42, which is integral with the arm 34 to thereby force the rod downwardly a short distance to further compress the coil spring 16. Any suitable circuit breaking mechanism, many of which are so well known that it appears unnecessary to show one in detail, may be used to open an electric circuit and de-energize the electro-magnet when the arm 34 is moved a predetermined distance downwardly. The result is that when the application of power to the electro-magnet is discontinued, the energy built up by the compression of spring 16 then forces the rod 14 upwardly so that the total movement is a vertical reciprocation of rod 17 and the transverse target supporting member 17. Illustratively, the supported targets will move between the full line position shown in FIG. 1 and the broken line position shown in FIG. 1.

In FIGS. 4 and 5, I show a modified form of target in which a base 46 adapted to slide longitudinally in the channel of the transverse frame member 17 is provided with a three sided slotted support identified by uprights 47 and 48, and the integral transverse portion 49. A target 51 which may be made of cardboard or other suitable relatively inexpensive but relatively sturdy material is vertically slipped within the three sided peripheral frame as shown in FIG. 4. This target may have any suitable marking, and usually will be inserted in mint condition and removed only when it has served its purpose as a target.

In connection with the target 51, as well as any of

the other targets shown in the drawings, I provide a new concept of visibility for the shooter through the use of one or more bright monochromatic colors which may also be luminous, if desired, for greater visibility. Illustratively, target 51 may be a bright cardinal red with green or yellow markings thereon, but whatever the combination when monochromatic colors are used, I have found that it is possible to see the hole made by the projectile quite readily with a fairly good set of binoculars from distances of 100 yards or even more. This makes it possible to shoot several times at the same target without leaving the shooting position and walking up to the target each time a shot is fired.

Still another form of target is shown in FIGS. 6 and 7. Here a slotted generally circular marginal frame 61 extends around a circular target 62 of cardboard or the like material. The marginal frame 61 terminates in a two part base 62, each with a bottom part 63 engaging in the channel of the transverse target support member 17 in the same general manner as the similar portion 24 shown in FIG. 2. The target 62 may also be suitably formed with a bright surface comprising at least one monochromatic color, and a marginal frame 61 formed of suitable material. I may use several approaches to the utilization of a frame for supporting a target of cardboard or like material, one being the use of a relatively resilient material which will yield slightly and avoid complete destruction unless it is hit squarely with the moving projectile; or I may employ a rigid material such as steel, which will resist breakage even when some relatively direct hits occur, particularly when small bean or pellet type "ammunition" is being used. Preferably, however, I employ relatively inexpensive expendable target supporting frames so that the overall cost is within the budget range of the maximum number of people.

I have referred to the target material preferably used, and the advisability of using monochromatic colors, and even reflecting colors so that projectile holes can be seen at a distance. Further features and advantages can be incorporated into the targets, however. One feature is the use of a fibrous material such as spun glass, very thin glass fibers, plastic fibers and the like material, many of which are available on the market. These materials may be shaped and molded, and, particularly if colored the same as the target, can be used to close projectile holes so that targets can be reused. Another feature is the use of a thin sheet of material, which may be bag like, which can fit over one fin of a target or over the entire target. One such covering sheet 64 appears in FIG. 6. The bag or other such enclosure of such thin material can be slipped over the target holder as well as the target if desired.

There are several advantages of the target combination of my present invention other than those already described or suggested. It is, of course, obvious that these targets may be used with any type of relatively common live ammunition, such as employed in sporting rifles, or .22 caliber target rifles, or, for that matter, such simple devices as those which shoot tiny pellets by means of compressed air or compressed carbon dioxide in which latter case, the target may be used indoors and suitable provisions made to support the stake as on a base which will rest on a horizontal surface. The disintegrating target feature is very pleasurable to many shooters because it has a psychological pleasing effect, but it does not litter the area with broken glass as happens when bottles and the like are used.

The scope of the invention is defined by the claim.

I claim:

1. In a target combination

(a) a transverse frame with a target carrying channel, with legs of the channel disposed upwardly and having inturned edges forming a top slot communicating with said channel,

5

- (b) means for supporting said target carrying channel at an elevated position, such as above ground level, and
- (c) a self-supporting target member having a base, said base having the shape, in cross section, of a truncated inverted triangle, with a bottom of a size to be forced between said inturned edges to lodge the base within said channel, and shoulders comprising the base of said triangle, said shoulders engaging under said inturned edges to hold the target member upright on said transverse frame,
- (d) said target member consisting of a target supporting marginal frame, and a self-supporting target supported thereby, said target being of at least one bright substantially monochromatic color to facilitate seeing a hole made by a projectile from the position from which said projectile is released.

6

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