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[54] **SHOOTING TARGET HOLDER**

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[73] Assignee: **Detroit Bullet Trap Corp.**, Schaumberg, Ill.

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[52] **U.S. Cl.** ..... **273/102 S**, 248/451, 40/128

[51] **Int. Cl.** **F41j 9/06**

[58] **Field of Search** ..... 273/102 R, 102 S, 102.4, 273/105.2; 40/128, 104–104.19; 248/441, 451, 452; 282/29 R, 29 A, 29 B

[56] **References Cited**

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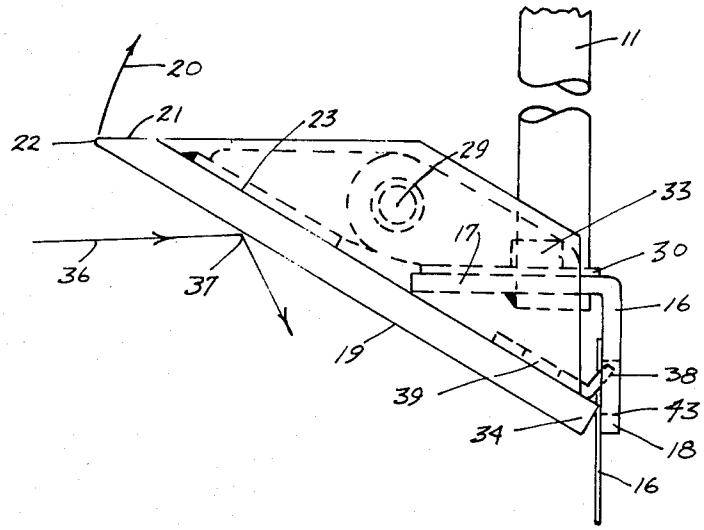
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[57] **ABSTRACT**

A target holder for a shooting range having a spring loaded clip supported on a frame. The clip has a toothed edge for gripping the target and a series of openings in the clip so that the toothed edge completely punctures the target. The toothed edge is mounted to a deflector plate which is oriented at an angle to the shooter. Because of the toothed arrangement for puncturing the target, momentary deflection of the deflector plate by impact of a bullet from the shooting range will not loosen the target.

2 Claims, 4 Drawing Figures



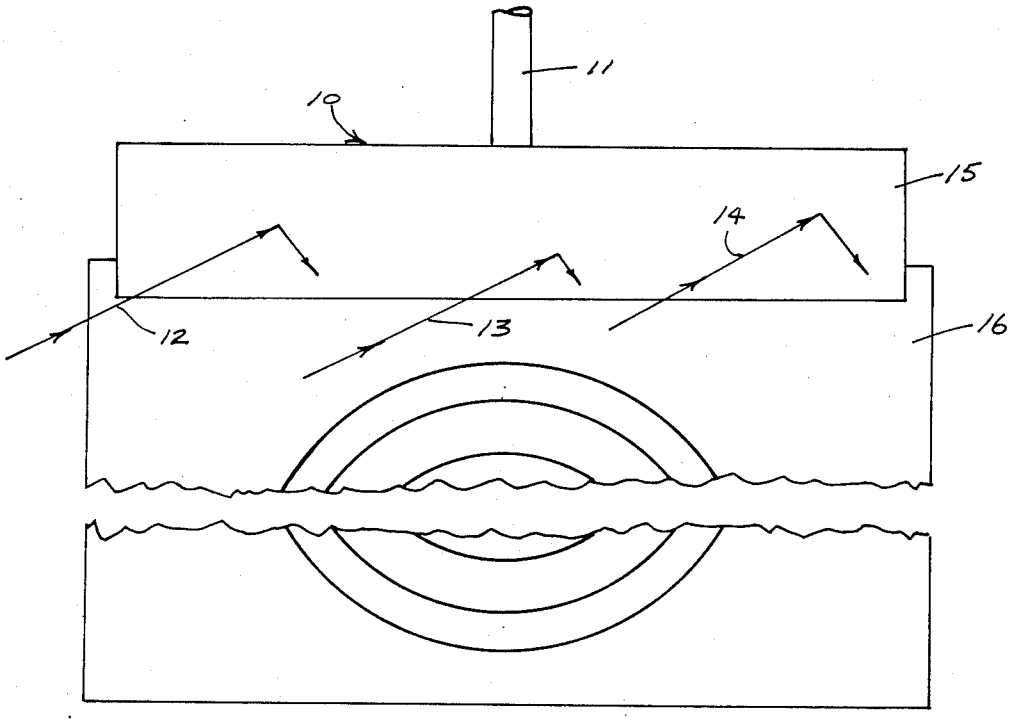


Fig. 1

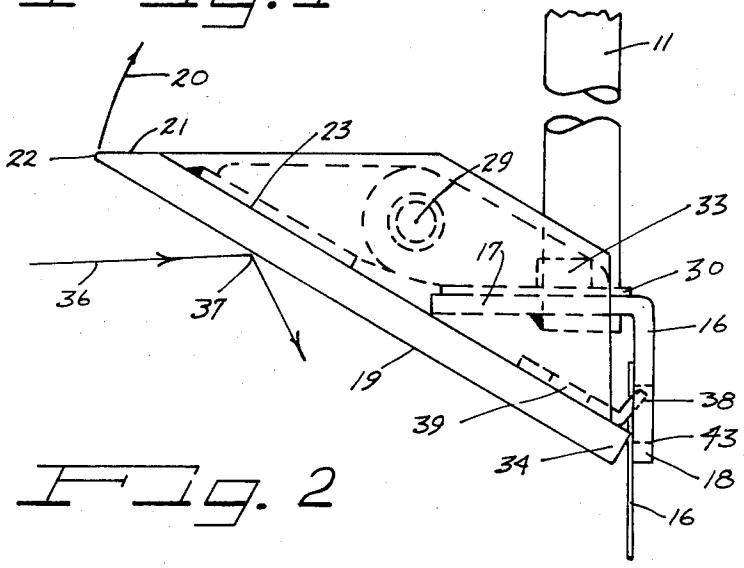


Fig. 2

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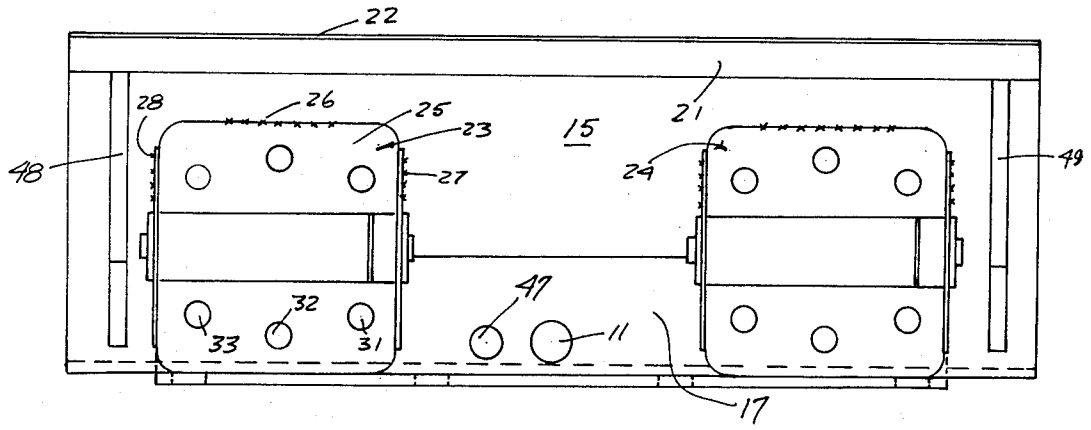


Fig. 3

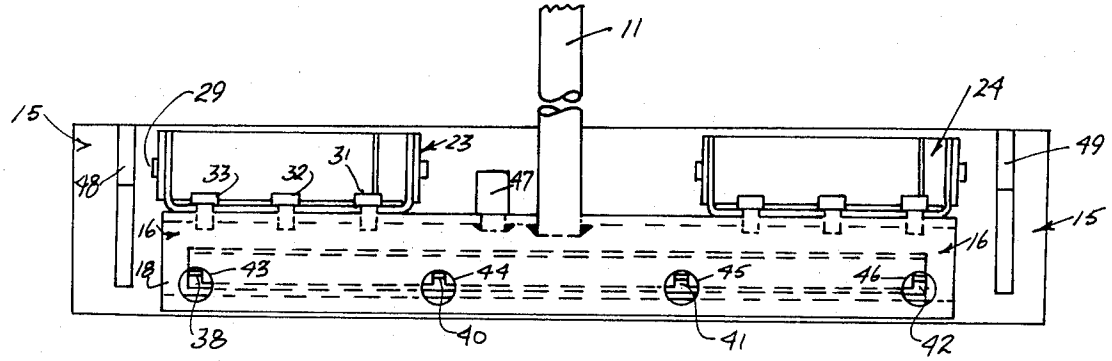


Fig. 4

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SHOOTING TARGET HOLDER

BACKGROUND OF THE INVENTION

Field of the Invention

The field of art to which this invention pertains is target holders for shooting ranges and in particular to target holders which permit the insertion and removal of a target without the use of screws, bolts, or other permanent fasteners.

SUMMARY OF THE INVENTION

It is an important feature of the present invention to provide an improved target holder for a shooting range.

It is another feature of the present invention to provide a target holder for a shooting range which permits ready removal and replacement of a target.

It is a principal object of the present invention to provide a target holder for a shooting range which has a clip-like jaw for supporting a target.

It is a further object of the present invention to provide a target holder which has a clip-like jaw wherein one portion of the clip has a toothed edge for being received within aligned openings in the clip to completely puncture a target.

It is also an object of the present invention to provide a target holder as described above wherein the toothed edge is rigidly secured to a deflector plate which is pivotally mounted to the target holder wherein the target is removed by pivoting the deflector plate and removing the target from the toothed edge.

It is an additional object of the present invention to provide a target holder which permits the removal and replacement of paper targets without the use of screws or other time consuming fasteners.

These and other objects, features and advantages of the invention will be readily apparent from the following description of a preferred embodiment thereof, taken in conjunction with the accompanying drawings, although variations and modifications may be effected without departing from the spirit and scope of the novel concepts of the disclosure.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. 1 shows the front view of a target holder in accordance with the present invention showing the positioning of a target therein and showing the trajectories of bullets impacting at the deflector plate of the target holder.

FIG. 2 shows an end view of a target holder according to the present invention illustrating the use of the toothed jaw-like clip for supporting the target.

FIG. 3 is a top view of the target holder of the present invention showing the position of the spring loaded hinges which provide the biasing force for the clip or jaw of the target holder.

FIG. 4 is a rear view of the target holder shown in FIG. 2 illustrating the projection of the teeth of the clip or jaw through the openings in the target locating plate.

DESCRIPTION OF THE PREFERRED EMBODIMENT

The present invention relates to a target holder for a shooting range which permits the ready removal and replacement of a paper target or the like. In a shooting range, targets are consumed rapidly, and it would be an advantage to have a system for readily removing and replacing a target without the necessity of using screws or other permanent type fasteners.

The present invention provides a way of accomplishing ready removal and replacement of targets by providing a clip-like arrangement which is so arranged as to prevent opening of the clip due to impact of bullets against the clip.

It is important in any shooting range that all of the metallic surfaces which are in the path of the shooter be contoured or angled in such a way that lead will not be redirected to the shooter. The present invention provides a deflector plate which is angled so as to prevent lead from being redirected to the shooter and yet which allows the impact of lead against the deflector plate without dislodging a target which is held in position by a spring loaded clip arrangement.

FIG. 1 shows generally a target holder **10** according to the present invention which is supported on a shaft **11.** The target holder **10** may be impacted by bullets fired in the shooting range as shown by trajectories **12, 13** and **14.** Bullets following the paths **12, 13** and **14** deflect off a deflector plate **15,** and in doing so, produce an impact on the plate **15** which may tend to open the clip-like target holder. FIG. **1** also shows a target **16** which is supported in the target holder.

The target holder is shown in greater detail in FIGS. **2, 3** and **4.** The shaft **11** which supports the target may be rotated by a suitable mechanism so that the target may be made to face any one of a number of positions with respect to the shooter. The holder itself consists of the deflector plate **15** and a target locating plate **16.** The target locating plate is a right angle member having a first flange portion **17** and a depending flange portion **18.** The deflector plate **15** is mounted at a suitable angle such that lead is not splattered back to the shooter. However, bullets impacting on the face **19** of the plate tend to cause the plate to pivot along the direction of the arrow **20.**

The deflector **15** has a chamfered forward edge **21** which is shaped in such a way as to leave a blunt tip **22** on the plate.

The deflector plate **15** is mounted to the flange **17** of the target locating plate **16** by means of a pair of spring hinges **23** and **24.** The hinges **23** and **24** may be standard hinges such as National No. V125 hinges.

The hinge **23,** for instance, has a first flange **25** which is welded as at **26, 27** and **28** to the deflector plate **15.** The hinge is spring loaded about the pivot point **29.** The other flange **30** of the hinge may be bolted to the flange **17** of the target locating plate **16** by a series of bolts **31, 32** and **33.** The other hinge **24** may be similarly mounted.

Referring to FIG. **2,** the deflector plate **19** extends from the blunt tip **22** to a rearward edge **34.** The pivot point **29** is approximately half way between the edges **22** and **34.** As shown in FIG. **2,** a jaw is formed at the meeting point between the end **34** of the deflector plate **15** and the depending edge **18** of the target locating plate **16.** This jaw may be opened simply by grasping the target holder and deflecting the plate **15** in the direction of the arrow **20.** This pivots the plate **15** against the biasing force of the springs **23** and **24** to open the jaw which is indicated by the reference numeral **35.** When the deflector plate is released, the jaw returns to the position shown in FIG. **2** to firmly grip the target **16.**

Since a bullet directed along a path such as the path **36** in FIG. **2** will impact the deflector plate at a point **37** and tend to pivot the plate about the pivot point **29,** a toothed-like jaw is provided to prevent the target **16** from being dislodged. To this end, a series of tooth-like projections **38** are attached to the rear surface **39** of the deflector plate **15.** These tooth-like projections may be formed from right angle brackets which may be screwed or welded to the rear of the plate **15** at a point **39.**

In the embodiments shown in FIG. **4,** four such projections **38, 40, 41** and **42** are illustrated.

To assure that the teeth **38, 40, 41** and **42** completely puncture the target, openings **43, 44, 45** and **46** are formed in the depending portion **18** of the target locating plate **16.** These openings are aligned with the teeth of the deflector plate so that the teeth actually protrude into the openings as shown in FIG. **2.** In this way, when the deflector plate **15** tends to pivot due to impact of a bullet fired in the shooting range, the impact will not dislodge the target since the target will be punctured by the toothed jaw arrangement. To prevent the jaw from being opened excessively against the spring action, a stop pin **47** is provided as shown. Also, protection bars **48** and **49** may be provided on either side of the target to protect the hinges from impact.

Accordingly, the device disclosed above provides a means for supporting a target in a shooting range in such a way as to both prevent the splatter of lead toward the shooter and at the same time make the target readily removable and replaceable.

I claim as my invention:

1. A target holder for a shooting range comprising:

a target locating plate,

a deflector plate having top and front faces,

said front face angled downwardly and rearwardly for deflecting a bullet away from a shooter,

said front and top faces describing an acute angle at the edge formed at their intersection,

said edge being blunted for preventing a bullet from deflecting back toward the shooter,

spring means urging said plates together at one edge to form a jaw for holding a target therein,

said jaw including a plurality of openings formed in the target locating plate and a plurality of fork-like projections extending outwardly from the deflector plate, said fork-like projections being received within said openings for firmly supporting a target, and

said deflector plate being movable against the force of said spring means to permit the ready insertion and removal of a target.

2. A target holder in accordance with claim **1** wherein said spring means comprises a pivotal action spring having two action members pivotally biased toward each other, one of said two action members being firmly coupled to said deflector plate and the other being firmly coupled to the target locating plate to cause said jaw to be pivotally biased into a closed position.

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