

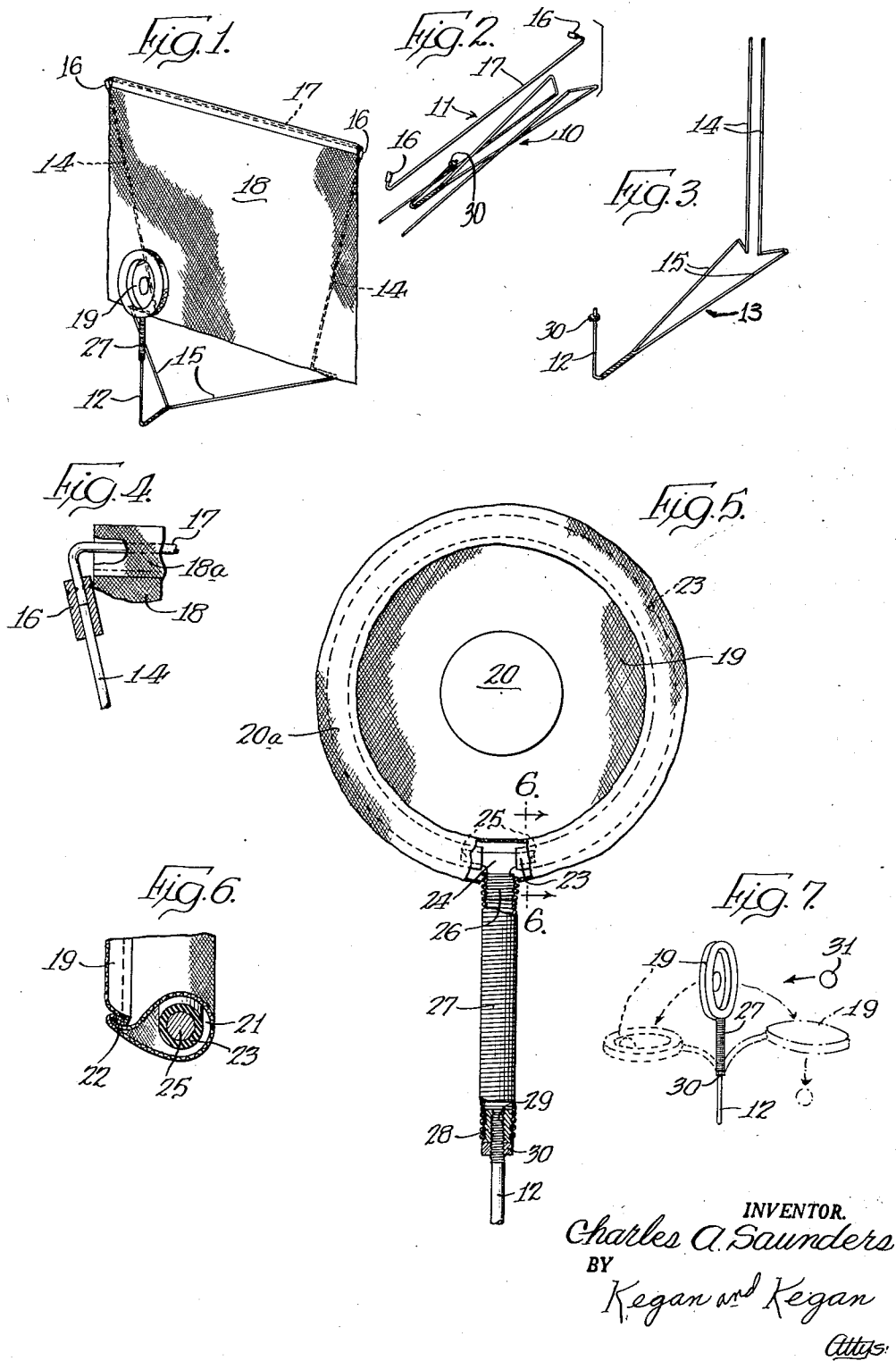
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TARGET WITH PROJECTILE STOP

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This invention relates to improvements in targets and more particularly to a target at which small missiles are propelled as a game or to test the accuracy and skill of the user.

The principal object of the invention is to provide a target structure including a spring and a pouch thereon for the "bull's-eye," which structure catches a missile which strikes the bull's-eye; oscillates to visibly announce the hit; absorbs the impact thereof; and facilitates retrieving the spent missile, which either remains quietly in the target pouch or else drops gently to the ground nearby.

Another object of the invention is to provide a complete target assembly comprising a target, backstop protective screen spaced therefrom, and a frame structure to support and position the target and screen; said assembly being simple in construction, easy to assemble, inexpensive to manufacture, strong and durable in use, and so constructed as to enable compact packaging for both storage and shipping purposes.

And another feature of this invention is the provision of a target which is safe to use, there being no danger of the shots caroming off the target pouch or the backstop. The target is so designed that the greater part of the energy of the flying missile is absorbed by the target pouch and its supporting arm which, after the missile is caught, usually causes the missile to be gently dropped to the ground, and thereafter continues to swing for a while.

The foregoing and other objects, advantages and features of construction will be more apparent when considered in connection with the following description and the accompanying drawings.

In the drawings:

Figure 1 is a perspective view of the assembled invention;

Figure 2 is a perspective view of a portion of the supporting frame prepared for packaging;

Figure 3 is a view similar to that shown in Figure 2 but showing the supporting frame in an intermediate stage of assembly;

Figure 4 is a cut-away view of an upper corner portion of the supporting frame and protective screen held thereby;

Figure 5 is a front elevational view of the target pouch and its supporting arm;

Figure 6 is a cross-sectional view taken on lines 6-6 in Figure 5; and

Figure 7 is a superimposed view of the target pouch and a missile approaching (shown in solid line), after the missile has struck the pouch (shown in dotted lines), and with the target pouch discharging the missile (shown in dot-dash lines).

The invention comprises three principal portions: a supporting frame, a protective screen or backstop held thereby, and the target held at the forward position of the frame.

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Referring to Figures 1-4, the supporting frame preferably comprises two soft iron rod members, indicated generally at 10 and 11. Member 10 is made from two preferably soft iron rods which are bent at predetermined locations to provide a target support 12, located adjacent the apex of a V-shaped base or foundation 13, with the legs of the base being bent to provide uprights 14-14 for holding the protective screen. When packed for storage or shipment, the separate portions of member 10 are bent so that they lie in near parallel planes to thus present a compact package, as seen in Figure 2. The separate rods which comprise member 10 are interwound adjacent the target support portion 12, in order to present a unitary frame structure.

To prepare member 10 for use, the target support portion 12 is bent upright, as are portions 14-14. The legs 15-15 of base 13 then are spread apart to form a V-shaped foundation until there is a sufficient distance between the uprights 14-14 to present an adequate backstop area, with target support portion 12 being positioned midway between uprights 14-14 of the backstop. Member 11 is then attached to the uprights 14-14 by sliding sleeves 16-16, attached to member 11 at each end thereof, over the upper ends of uprights 14-14, thereby preventing the uprights 14-14 from springing together and stabilizing the entire structure as well as presenting a cross bar 17 for holding the protective screen 18.

To disassemble the invention the sleeves 16-16 on member 11 are slipped from engagement with uprights 14-14. Thereafter the entire frame may be bent to again occupy a minimum of space, as shown in Figure 2.

The protective screen 18, which is provided to check the flight of missiles which miss the target, may be attached to the frame and cross bar by any suitable means, such as by stitching or by stapling. As shown in Figure 4, the upper portion of screen 18 is provided with a hem 18a and cross bar 17 is inserted therein. Screen 18 itself may be made from any suitable material having sufficient strength to absorb the blow of the missiles. In practice both canvas and burlap have been found to fulfill the necessary requirements for the screen.

Referring to Figures 5 and 6, the target assembly comprises a target pouch 19, made preferably from canvas or similar sturdy cloth, or made from closely woven wire mesh, suitable to withstand repeated missile impacts. The face of the pouch is painted with a bull's-eye 20 while the pouch outer edges are painted to present a ring 20a in order to simulate the customary target. The pouch outer edges are wrapped about a frame or stiffener 21 and attached thereto preferably by stitching 22, as seen in Figure 6, to keep the target pouch in shape. Frame 21 comprises a rubber or plastic tubing 23 formed into a hoop, with the tension of the frame tubing tending to maintain the shape of the target area. The frame 21 is held in shape by fastening the ends of the tubing 23 over the arms 25-25 of a T-shaped connector 24 which has a threaded stem 26 for connection to the target pouch supporting arm 27. Arm 27 preferably is a tightly wound helical spring, although other oscillating structures, such as a leaf spring or rubber rod or tube, may be employed for the purpose. The energy absorbing qualities of arm 27, together with the particular target pouch construction, further prevents caroming of any missiles which strike the target assembly.

A bolt 28 is threaded into the other end of coil arm 27, and has an internal portion 29 enabling the coil arm to be threaded to the target support portion 12. A lock nut 30, threaded on target support 12, provides a means for squaring up the target assembly with the location from which the missile is projected.

To set up the entire device, the frame member 10 is

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prepared as previously described, and cross bar 17 is attached thereto. The protective screen 18 thereafter is either draped over cross bar 17 and the uprights 14—14 or it may be attached thereto, for example, as shown in Figure 4, so that it surrounds the cross bar and covers the uprights. The target support coil arm 27 is thereafter threaded to the support portion 12.

The missile 31 may be propelled by any suitable means, such as by sling shot or air rifle, or it even may be thrown by hand. As the missile impinges upon the target pouch 19, the sound of the impact and the visible oscillations of the target evidence a hit. Simultaneously, the yieldable nature of coil arm 27 allows it to absorb a substantial amount of the impact force applied to the pouch by the missile, causing the arm 27 to bend backwards, as shown by the dotted lines in Figure 7. Immediately thereafter the resiliency of coil arm 27 causes it, target pouch 19 and missile 31 to swing forward, as shown by the dot-dash lines in Figure 7, so as to empty the pouch by dropping the captured missile onto the ground nearby. The target structure continues to swing back and forth for a while, so if the missile does not fall out of the pouch at the end of the first forward swing, it is likely to do so at the end of a later swing. The target also continues to swing for a while after the missile has been dropped. This is a source of real satisfaction to the marksman, because he gets considerable action every time he scores a bull's-eye.

It is obvious, of course, that the invention may be employed as part of a game, the object of which is to hit the target from successively increasing distances.

It is understood that the invention is not restricted to the illustrated and described embodiment, and that various changes may be made without departing from the spirit of the invention as set forth in the following claims.

I claim:

1. A target assembly consisting of a pliant metallic rod frame including a horizontal ground engaging substantially V-shaped base portion, a target support portion bent upwardly from the apex of said base portion, and uprights, one bent upwardly from each leg of said base

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portion; a shallow target pouch painted to simulate a bull's-eye; circular means at the outer rim of said pouch for maintaining said pouch circular in shape; a tightly wound coil spring arm connected at one end to said circular means and extending radially therefrom for releasably retaining said target pouch in a vertical position; a connector joining the other end of said coil arm with said target support portion, whereby the impact of a projected missile on said pouch is absorbed by said coil arm to cause said arm thereafter to swing said target pouch downward and deposit the caught missile on the ground in the target area; and a back-stop screen supported by said uprights to end the flight of missiles missing said target pouch.

2. A target assembly, comprising: an integral frame including a V-shaped base; uprights bent from the extremity of each leg thereof to provide a protective screen support, said frame being formed from a pair of pliant metallic rods twisted together at the apex of said base with one rod adjacent said apex having its other end bent to provide a target support arm positionable midway between said uprights; threading at the extremity of said support arm; a shallow target pouch; a resilient hoop wrapped within the outer edges of said pouch, said target pouch and its outer edges being painted to simulate a bull's-eye target; a tightly wound coil spring connected at one end to said hoop and extending radially therefrom; a connector having external threads for threading within said coil spring and internal threads for threading onto said target support arm; threadable means on said target support arm for adjustably positioning said connector thereon; a flexible protective screen; a crossbar wrapped within the upper edge thereof; and connecting sleeves joining said crossbar to said uprights.

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