United States Patent

[11] **3,540,729**

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[54] **COLLAPSIBLE RACK FOR HOLDING TARGETS, SIGNALS AND THE LIKE**
4 Claims, 11 Drawing Figs.

[52] **U.S. Cl.** **273/102,** 248/156
[51] **Int. Cl.** **A45f 3/44**
[50] **Field of Search** 248/125, 128, 148; 273/102A, 102AP, 102PM, 102S, 102B

[56] **References Cited**

UNITED STATES PATENTS

2,372,111	3/1945	Norberg	273/102
2,538,118	1/1951	Miller	273/102(S)UX
2,591,685	4/1952	DuMais et al	248/125
2,890,051	6/1959	Williams	273/102(S)UX
3,307,707	3/1967	Wright	248/125

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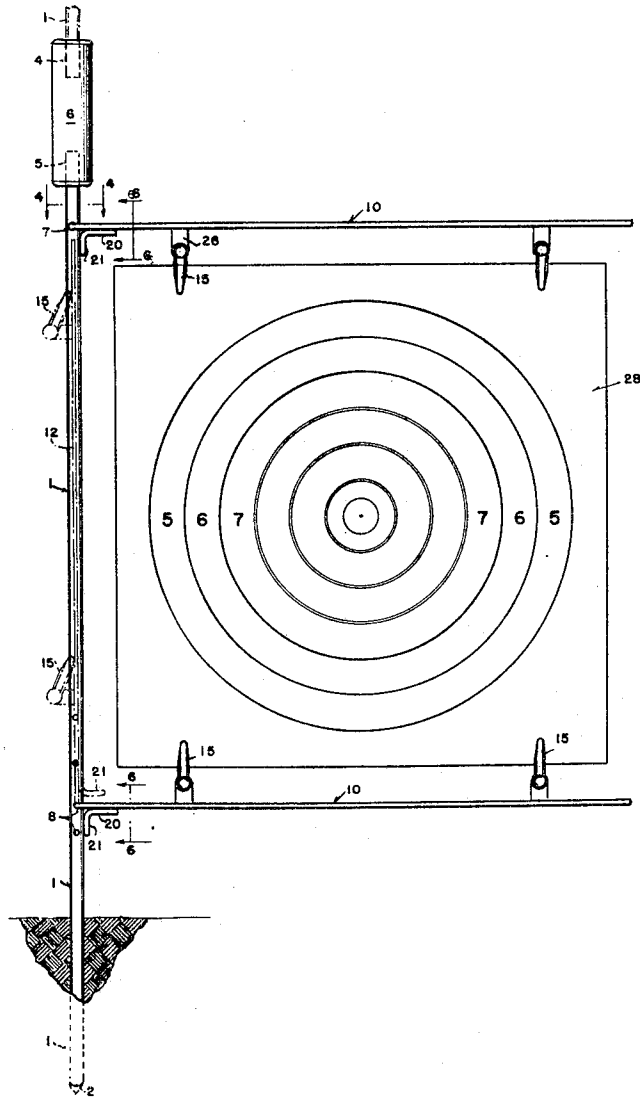
ABSTRACT: A rack for holding paper or cardboard sheets having printed or lithographed thereon standardized targets for practicing marksmanship. The rack comprises a standard in the form of a rod adapted to be driven into the ground at any selected distance from a firing line or in accordance with rules of competitive riflery. The rod is provided with vertically adjustable, laterally extended arms and spring-clamps carried by the arms for holding target sheets tightly drawn vertically and laterally to present a smooth, correct and clearly visible sight picture.



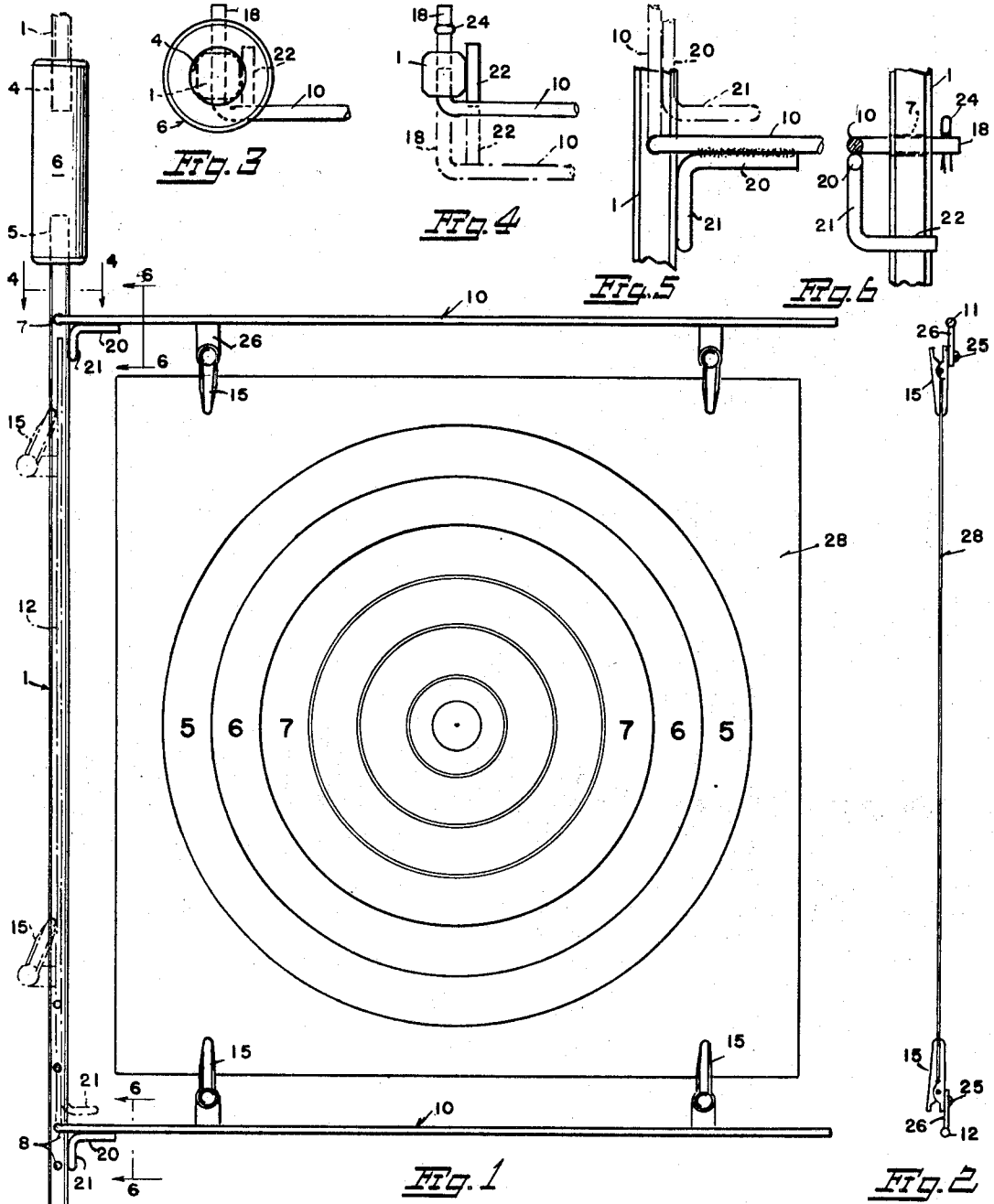


Fig. 1

Fig. 2

Fig. 3

Fig. 4

Fig. 5

Fig. 6

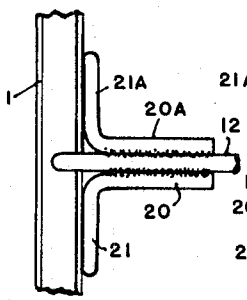


Fig. 5A

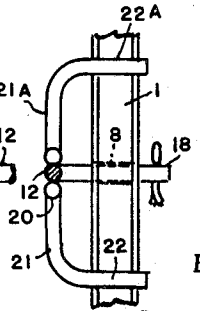


Fig. 6A

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Sheet 2 of 2

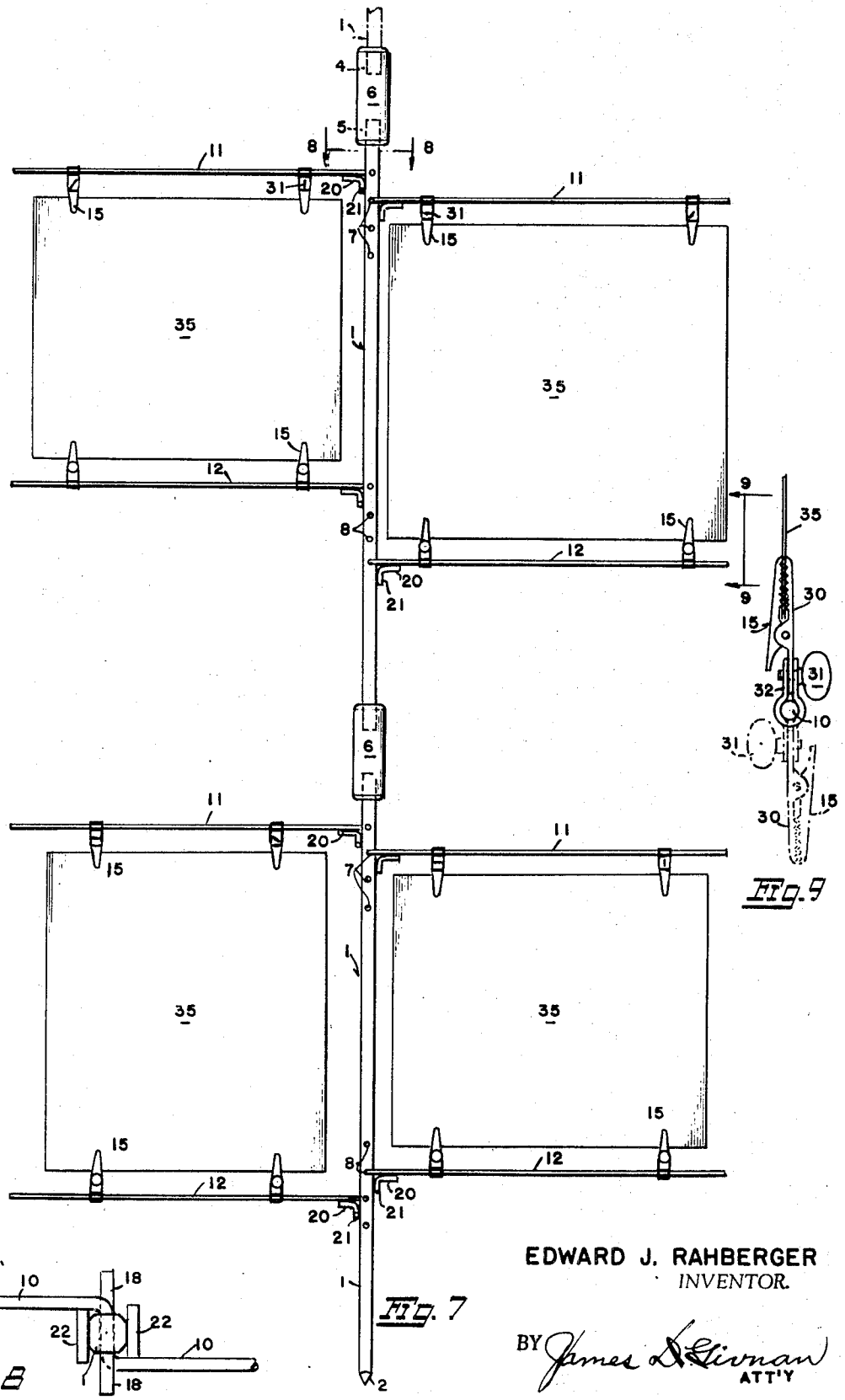

Fig. 7

Fig. 8

Fig. 9

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COLLAPSIBLE RACK FOR HOLDING TARGETS, SIGNALS AND THE LIKE

The principal objects of the invention are:

To provide a rack as above described which is of simple, efficient, durable, light weight, inexpensive construction, collapsible, portable and highly effective in holding target sheets, signs, signals and the like, printed on paper or any other suitable material in flat panel formation. An equally important feature of the device is that it may be moved to and from a firing range or from one firing distance to another for short periods of use, in contrast to such targets permanently secured in one location or firing distance.

The foregoing and other objects and advantages which will become subsequently apparent reside in the details of construction and operation as more fully hereinafter described and claimed, reference being had to the accompanying drawings forming a part hereof and in which:

FIG. 1 is an elevational view of a target holding device made in accordance with my invention.

FIG. 2 is an edgewise view of a target sheet movably attached by spring clamps to arms extending laterally from their supporting rod.

FIG. 3 is a fragmentary top plan view of FIG. 1 on an enlarged scale.

FIG. 4 is a sectional detail view taken approximately along the line 4–4 of FIG. 1.

FIG. 5 is a front elevational view of FIG. 4.

FIG. 6 is a side elevational view of FIG. 5 and also as viewed along the lines 6–6 of FIG. 1.

FIGS. 5A–6A are views similar to FIGS. 5–6 showing modifications thereof.

FIG. 7 is an elevational view illustrating the adaptability of holders made in accordance with the invention to be stacked one upon the other to hold targets and similar signs or signals of various lengths and widths.

FIG. 8 is a sectional detail view on an enlarged scale taken approximately along the line 8–8 of FIG. 7, and

FIG. 9 is a detail view on an enlarged scale taken approximately along the line 9–9 of FIG. 7.

Referring now more particularly to the drawings wherein like reference numerals designate like parts and particularly FIGS. 1—6 thereof, numeral 1 indicates the main body of the holder in the form of a rod pointed as at 2 at its bottom end for insertion into the ground to maintain the rod in a vertical position as shown.

The rod 1 is preferably of square section and adapted for frictional holding engagement (FIG. 3) with either inwardly bored end 4 or 5 of a hand grip 6. The rod is provided with a series of apertures 7 near its top end and a series 8 near its bottom end.

All of the apertures are of uniform diameter to swingably support identical top and bottom arms indicated generally at 10 and sometimes hereinafter indicated individually at 11 and 12 respectively. The arms and their means for attachment to the rod 1 are identical except for the disposition of spring clamps 15 depending from the top arm 11 and those extending upwardly from the bottom arm 12.

As best illustrated in FIGS. 3—6, the inner end of each arm 10 is bent at right angles to itself as at 18 for selective insertion through either series of apertures 7 or 8. Secured by welding or the like as at 19 to the underside of the arm adjacent its bent end portion 18 is a short length 20 of the same arm material bent downwardly as at 21, then outwardly as at 22 to a length exceeding the width of the rod 1 to serve as an abutment or limit stop for holding the arm 10 in a horizontal position at right angles to the rod 1, as best shown in FIGS. 1 and 5.

The bent end portion 18 of each rod 10 is provided with a removable cotter pin 24 for maintaining the arm in operative engagement with the rod 1.

In FIGS. 5A—6A it will be seen that the additional limit stop 20A secured to the arm 12 directly above the bottom limit stop 20 will hold the bottom arm against accidental upward movement and hence prevent distortion to the target or sign 28 carried by both arms.

The spring clamps 15 (FIGS. 1 and 2) are adjustably tiltable in the direction of the length of their respective arms 10 by means of screws 25 extending through the end of plates 26 welded or otherwise secured to the arms. This adjustable and lockable feature of the spring clamps serves the dual purpose of holding a target sheet 28 tightly drawn vertically and laterally to present a clearly visible sight picture, and of rendering the clamps collapsible relative to their arms when the latter are swung into alignment with the rod 1 as shown in broken lines in FIG. 1. When not in use the holder is thus readily collapsible for convenience in carrying or storing purposes.

The mounting for the spring clamps 15 (FIG. 9) differs from that shown in FIGS. 1 and 2, in that the fixed jaw 30 of the clamp is tiltable, rotatable about and lockable relative to the supporting arm 10 by means of a wingbolt 31 extending through the legs of a clip 32 which embraces the arm and is thereby slidable lengthwise of the arm and lockable in any adjusted position by the wingbolt.

This form of clamp mounting may be substituted for those shown in FIGS. 1 and 2 since it may be adjustably attached to its supporting arm 10 and locked either in an upwardly or downwardly extending position as illustrated in FIG. 9.

With reference to FIG. 7 and regardless of the type of spring clamps employed, it will be readily seen that a number of the devices may be stacked and interconnected in vertical alignment with each other by insertion of the bottom end of a superimposed rod 1A into the bored end 4 of the handgrip 6 and that the arms 11 and 12 with their identical inner end attachments may be selectively engaged at various levels with the rod 1 by insertion of their right angular bent inner ends 18 of the arms through the apertures 7 or 8 in the rod 1.

This feature is best illustrated in FIG. 8 wherein it will be seen that rotation of the arms about their longitudinal axis will position their bent ends 18 for insertion through the rod 1 from the front or rear thereof and thus position the limit stops 22 in abutment with opposite sides of the rod.

From the foregoing it will be apparent that the structure herein shown and described is not, nor intended to be, limited to use as a holder for paper targets since obviously signs of various types and of sizes within the limits of the adjustability of the arms 10 and spring clamps 15 may be utilized, as indicated at 35 in FIG. 7.

I claim:

1. A device for holding sheets of material having signal delineations printed or lithographed thereon;

said device comprising a rod adapted at its bottom end to be removably secured in a vertical position relative to the ground or other supporting surface;

said rod having series of apertures extending therethrough at spaced intervals;

a handgrip having an inwardly extending opening at each of its ends and thereby adapted for attachment at either of its ends to one end of said rod;

a plurality of normally horizontally disposed arms extending outwardly from said rod in vertically spaced relation to each other;

identical means carried by the inner end of each of said arms for selective engagement with said apertures through the rod and for abutting the rod to hold the arms in said horizontally disposed spaced relation to each other; and

means carried by said arms and opposing each other for holding a sheet of material between the arms.

2. A device as claimed in claim 1 wherein said identical means carried by each of said arms comprises a bent inner end portion adapted for insertion through any one of the apertures in said series from either side of the rod, and an abutment permanently secured to said arm adjacent said inner end thereof and bent downwardly then outwardly for engagement with another side of the rod for holding the arm in a horizontal position.

3. A device as claimed in claim 1 wherein said means carried by said arms comprises a spring clamp and means pivotally mounting said clamps to said arms.

4. A device as claimed in claim 2 including two abutments permanently secured to said inner end of said arm in vertical alignment with each other and bent respectively downwardly and upwardly then outwardly for engagement with an adjacent side of said rod to hold said arm horizontally against unintentional upward or downward movement relative to the rod.