Dec. 22, 1931. E. G. MEAD ET AL 1,837,627

ARCHERY TARGET

Filed Sept. 11, 1928

Fig. 1.

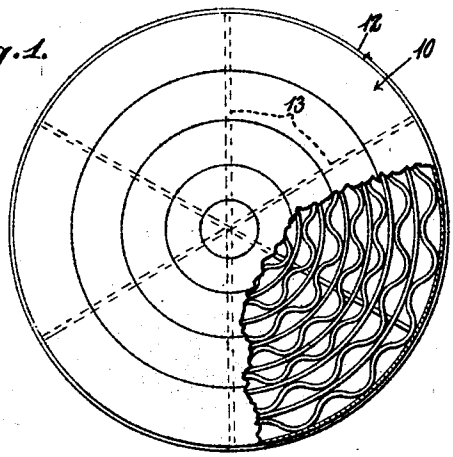


Fig. 2.

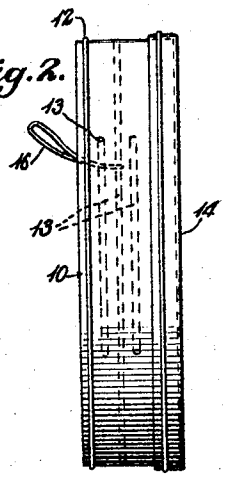


Fig. 3.

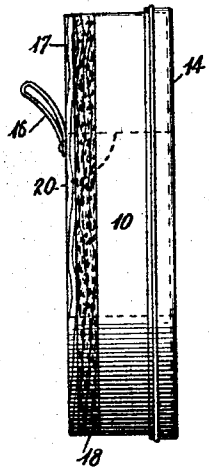


Fig. 4.

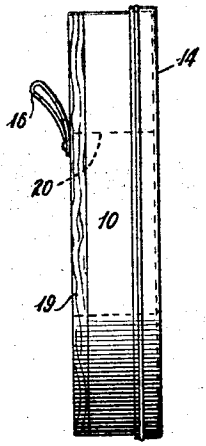


Fig. 7.

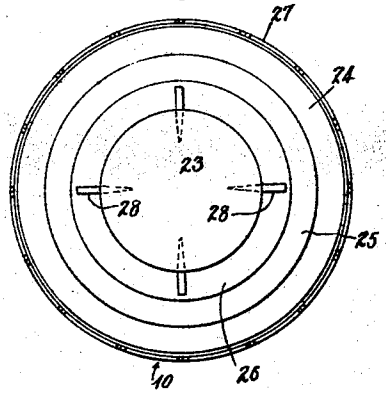


Fig. 8.

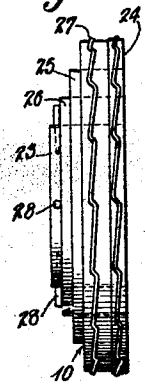


Fig. 5.

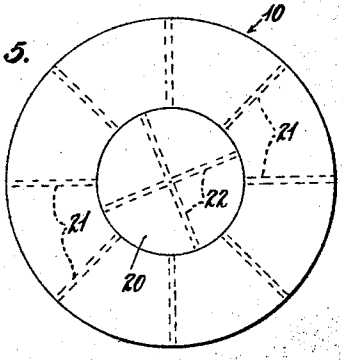
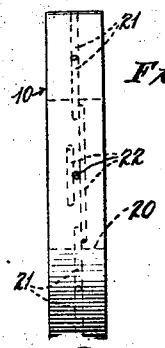


Fig. 6.



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UNITED STATES PATENT OFFICE

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ARCHERY TARGET

Application filed September 11, 1928. Serial No. 305,301.

This invention relates to the art of archery, and specifically has reference to archery targets.

The primary object of this invention is the provision of a target that will gradually and effectively stop the arrow without rebound, be relatively slow in shooting to pieces, and in which a longer life is given the target face.

Another object is the elimination of the old style straw target that soon becomes leaky in use, thus allowing the arrows to oftimes pass completely through target with consequent danger of injury to persons unwittingly in the path of flight of the arrow after it leaves the target. It also tends to do away with the litter that falls from a straw target.

Still another object of this invention is the provision of a removable center so that that part of the target that soonest becomes perforated may be readily replaced, thus affording a material saving in the practice of the sport of archery.

This invention also contemplates a target which is more rigid and less unwieldy and which may be rolled to the target stand.

We have discovered that cellular strawboard, when rolled into the form of a target with the longitudinal cells parallel with the axis of the target, that is, normal to the plane of the target, enables the attainment of the objects referred to above.

In the actual practice of this invention we have found that a target from four to eight inches thick in the center zone will effectively stop the ordinary archery arrow because the diameter of the arrow is slightly greater than the greatest cross dimension of the cellular opening. Furthermore, when the cells of the target are sealed there is a considerable air cushioning effect tending to decrease the impact in stopping the arrow.

In the practice of our invention, we have employed several forms of the generic invention which are shown more or less diagrammatically in the accompanying drawings in which—

Fig. 1 is a front elevation of one form of our target with the target face cover partly broken away showing the cellular structure out of scale.

Fig. 2 is a side elevation of the target shown in Fig. 1.

Figs. 3 and 4 are side elevations of modified forms of our invention.

Fig. 5 is a rear view of one form of our target that has a removable and renewable center.

Fig. 6 is a side elevation of the target shown in Fig. 5.

Fig. 7 is a rear elevation of one form of our target in which the center is both renewable and of greater thickness than the remainder of the target.

Fig. 8 is a side elevation of the target shown in Fig. 7.

In the following detailed description the same reference character always refers to the same element.

Referring more especially to that form of our target shown in Figs. 1 and 2, 10 indicates the target as a whole. Cellular paperboard is cut across the cells into strips having widths of from four to eight inches. These strips are treated with an adhesive agent and then are rolled into the form shown. Besides the adhesive agent referred to other securing means is provided in the form of binding members 12 which may be either suitable cord, a metallic hoop, or a wooden hoop. Also, we employ dowels 13 to aid in holding the cellular board in place. Over the front of the target is a facing 14 which may be either plain or treated fabric, or tough paper. This facing may either be glued to the target face or bound thereto by twine, wood or metal. A suitable holding strap 16 is also provided.

In that form of target shown in Fig. 3, in addition to the features shown in Figs. 1 and 2 we have provided a backing 17 which may be of suitable wood such as basswood, balsa, or the like, or of papier-mâché, bagasse pulp, fibre board, cork or clarified rawhide. Between the back of the target body and the backing 17 we provide a cushioning means 18 which may be sponge rubber, hair felt, long staple moss, cotton batting, or waste, or any other resilient material that does not readily become leaky under impact of arrows.

In the form shown in Fig. 4, a backing 19 is shown similar in character to that described in connection with Fig. 3, but it will be noted that the cushioning material is omitted.

In that form of our target shown in Figs. 5 and 6 we have provided a renewable center 20. In this form of our device dowels 21 extend only through to the periphery of the opening provided for the center 20. Center 20 is strengthened by dowels 22. Otherwise the structure of the target with a renewable center is the same as that shown in Fig. 1.

In the form of our device illustrated in Figs. 7 and 8 we have provided a target with a gradually increasing thickness from the outer edge to the center. It has been found in the art of archery that the part of a target that is first shot leaky is the central portion, and that this condition decreases toward the outer edge. To meet this condition we have made this form of our target in zones gradually increasing in thickness from the face portion 24 to the central zone 23, each zone 24, 25, 26 and 23 being approximately one-fourth the face area of the target. These sections may be secured together by any suitable means such as glue, dowels, or the like. We also provide exterior binding means in the form of expansible hoops 27. The central member 23 is provided with dowel pins 28 which extend beyond the periphery of said member and are adapted to engage suitable keepers (not shown) provided on the near surface of section 26.

Having thus fully described our invention and the objects for which it is devised, what we claim as new and desire to cover by Letters Patent is:

1. An archery target constructed with cellular openings substantially perpendicular to the face of the target.

2. An archery target made of cellular paper whose cells are substantially perpendicular to the face of the target.

3. An archery target having a cellular body portion with the greatest dimensions of the cells substantially perpendicular to the face of the target and a backing therefor.

4. An archery target having a cellular body portion with the greatest dimensions of the cells substantially perpendicular to the face of the target, a backing therefor, and resilient means between said body and said backing.

5. An archery target having a cellular body portion with the greatest dimensions of the cells substantially perpendicular to the face of the target, a backing therefor, a resilient means between said body and said backing, the central zone of the body being removable.

6. An archery target formed of cellular material whose cells are substantially normal to the plane of the target and having its central zone removable and of greater thickness than the rest of the target.

7. In an archery target, a body having means to allow partial penetration by an arrow and to hold the arrow from rebound comprising material having a plurality of elongated cells, said cells placed with their length substantially perpendicular to the face of the target.

8. In an archery target, a body having means to bring the flight of an arrow to a cushioned stop and to prevent rebound comprising material having a plurality of elongated air cells of less diameter than that of the arrow, said cells placed with their length substantially perpendicular to the face of the target, and means to close the cells at their rearward ends, whereby to provide a dashpot action with the entering arrow.

9. In an archery target, in combination, a body comprising a plurality of superimposed layers of cellular material joined by adhesive, the layers presenting their edges to the target face of the body, the cells of said layers extending transversely of the layers and substantially normal to said target face when the body is assembled.

10. An archery target comprising, in combination, a plurality of layers of cellular material having the cells extending transversely of said layers, said layers superimposed and joined by adhesive, said layers presenting their edges to the faces of the resulting target body and the cells extending substantially normal to the target face, and dowels piercing said layers in a direction substantially parallel to the plane of the target face.

11. An archery target comprising, in combination, a body formed by superimposed layers of corrugated material, the said layers separated by layers of plane material to provide cells in the resulting body extending substantially normal to the face of the target.

12. An archery target comprising, in combination, a strip of material comprising a corrugated and a plane portion the corrugations extending transversely of the strip, said strip of material wound spirally into superimposed layers to provide a target body having cells extending substantially normal to the faces thereof.

13. An archery target comprising, in combination, an annulus formed of a strip of corrugated paper wound spirally, the corrugations of the strip extending transversely thereof and a cylindrical body formed in a like manner of a wider strip of material said last named body enclosed by the opening in the center of the annulus and fitting tightly therein with the target faces of the annulus and body in the same plane.

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