No. 735,415. PATENTED AUG. 4, 1903.

G. SCHRÖDEL.

PROJECTILE.

APPLICATION FILED APR. 17, 1903.

NO MODEL.

Fig. 1.

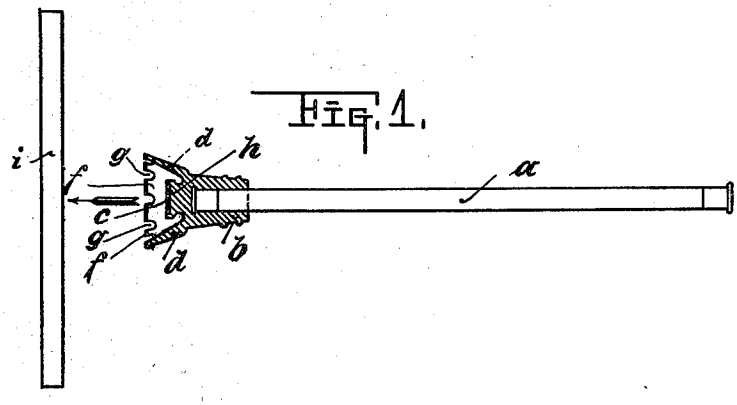


Fig. 2.

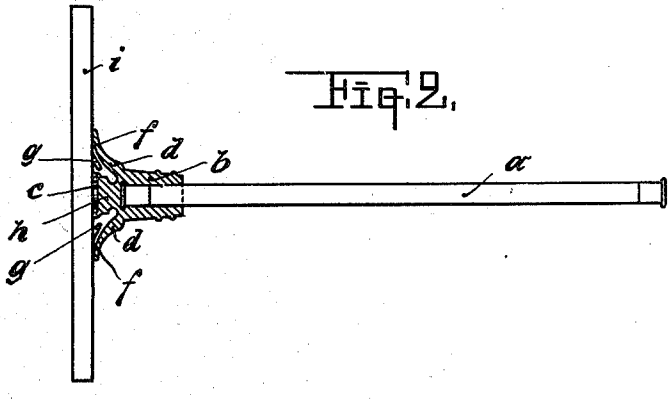
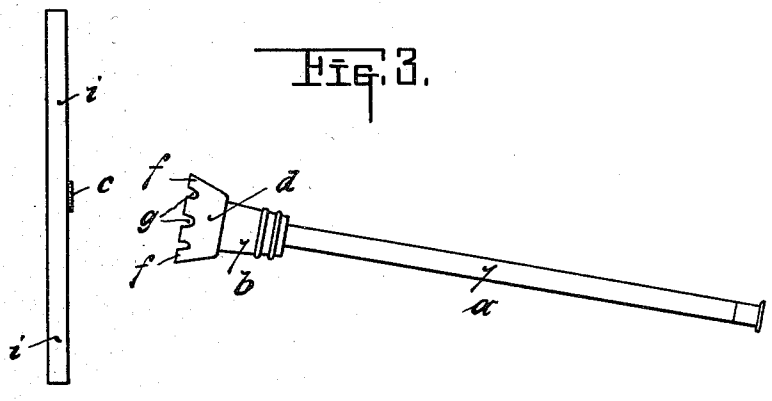


Fig. 3.



Witnesses:

Max Schneider

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Inventor:

Georg Schrödel

by B. Singer atty.

THE NORRIS PETERS CO., PHOTO-LITHO., WASHINGTON, D. C.

No. 735,415. Patented August 4, 1903.

UNITED STATES PATENT OFFICE.

GEORG SCHRÖDEL, OF NUREMBERG, GERMANY.

PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 735,415, dated August 4, 1903.

Application filed April 17, 1903. Serial No. 153,023. (No model.)

To all whom it may concern:

Be it known that I, GEORG SCHRÖDEL, a subject of the King of Bavaria, and a resident of No. 65 Maiachstrasse, Nuremberg 20, Bavaria, Germany, have invented certain new and useful Improvements in Projectiles for Sporting Purposes and Games; and I do hereby declare the following to be a full, clear, and exact description of this invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to an arrow, dart, or other projectile for shooting, throwing, slinging, or the like, for sporting purposes, or for use in games by means of which the place hit is automatically indicated on a target or the like without any special construction of the latter being required. For this purpose it has hitherto been usual to use an arrow or the like provided with a sharp point, such as a pin, so that the point of the projectile penetrated into the target and caused the former to be attached to the latter. This arrangement was too dangerous for use with games for children, and for this reason arrows have been used having india-rubber cups in place of points, so that they were held against the target by air-pressure. These arrows, however, could only become attached to flat surfaces and then only if the cup struck the surface perpendicularly.

The object of my invention is to produce an arrow, dart, or the like which will carry a small disk or plate to the target and cause it to adhere to the latter, but which will not adhere to the target itself. The point hit is by this means indicated, although the arrow falls to the ground immediately after impact and can then be used again.

The improved projectile is also perfectly harmless, and the disks or markers can be made to adhere to angles and corners and to soft, concave, convex, or any other surfaces.

One form of the improved projectile is shown in the annexed drawings as an example.

Figure 1 represents a dart during its flight toward the target, Fig. 2 the same dart on impact with the target, and Fig. 3 the dart falling to the ground after having attached the marking-disk to the target. In Figs. 1 and 2 the arrow is shown in section.

The shaft *a* of the arrow or dart has at its front a cup or the like *b*, of elastic material, which contains the marking-disk *c*. This cup *b* is wider at the end than at the base, and in the form illustrated the edges *f* of its walls or crown *d* are cut away at intervals, so that slots or apertures *g* are formed, through which air can enter the cup when the latter is pressed against the target. By this means the adherence of the arrow to the target is prevented. Inside the cup *b* a smaller cup *h* is provided, into which the disk *c* is inserted. The depth of the cup *h* is slightly in excess of the thickness of the said disk. One side of the disk *c* is coated with adhesive substance, which is moistened before the disk is used. The latter is placed in the cup *h* with the adhesive toward the mouth of the cup, so that when the arrow strikes the target the adhesive side of the disk will come in contact with the latter. No special means are provided for fastening the disk in the cup *h*. The disk is simply placed into the cup and is pressed inward by air-pressure during the flight of the arrow, being so supported by the walls of the cup *h* that it cannot fall down vertically.

When the arrow strikes the target, the outer cup *b* is pressed flat in the manner shown in Fig. 2. The inner cup *h* is then pressed against the target *i* and the adhesive side of the disk *c* comes into contact with the latter. By this means the said disk is attached to the target. The cup *b*, however, cannot become attached to the target, since air can always enter the cup through the slots *g* and prevent the creation of a vacuum. The cup *b* is therefore removed from the target by gravity as soon as the disk *c* has been attached and the arrow falls down in the manner shown in Fig. 3, but without taking the disk *c* along with it. As already stated, the impact of the arrow against the target causes the adhesive side of the disk *c* to be pressed against the target and to adhere to the latter. Since the disk is not fastened to the cup *h*, it is not pulled away from the target when the arrow falls down, but is pulled out of the cup and remains on the target to indicate the place hit.

It is obvious that this invention can be applied to arrows adapted to be shot from bows and also to bolts and the like to be shot from

crossbows, pistols, and guns and to projectiles for throwing and other purposes.

Having now described my invention and in what manner the same is to be performed, I declare that what I claim is—

1. In a projectile for sporting purposes and games, the combination of the cup-shaped head having a recess therein and a disk adapted to repose in said recess, said disk being provided with adhesive material on its exposed surface.

2. In a projectile, the combination with the shaft and elastic head provided with tongues whereby air may be admitted to said head to prevent its engaging with a target and the recess within said head adapted to receive adhesive disks.

In testimony whereof I affix my signature in presence of two witnesses.

GEORG SCHRÖDEL.

Witnesses:
A. WIELE,
MAX SCHNEIDER.