May 8, 1928.

1,669,118

D. L. BETTS

ARROWHEAD

Filed Nov. 9, 1927

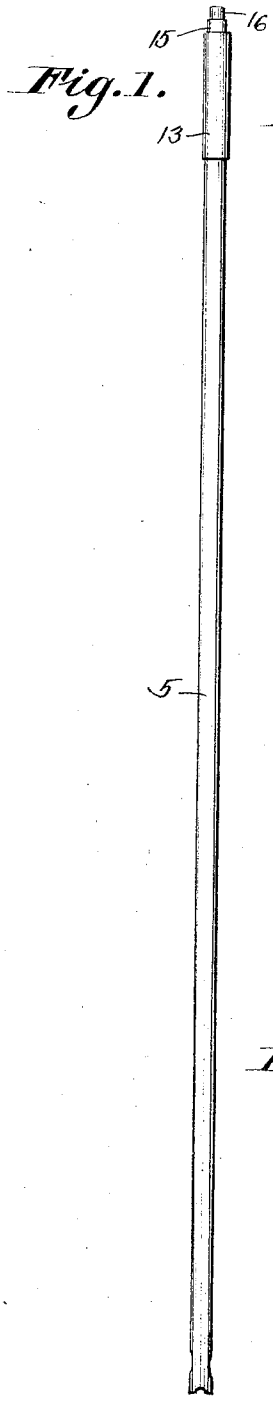


Fig. 1.

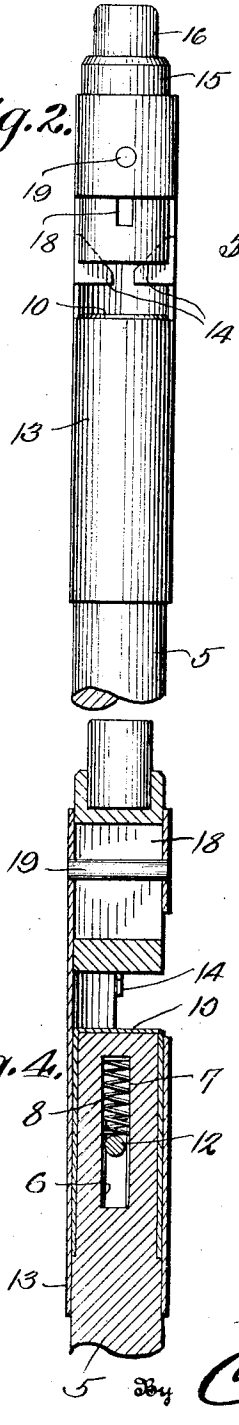


Fig. 2.

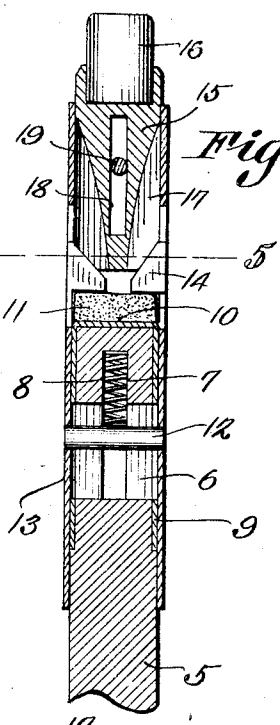


Fig. 3.

Fig. 4.

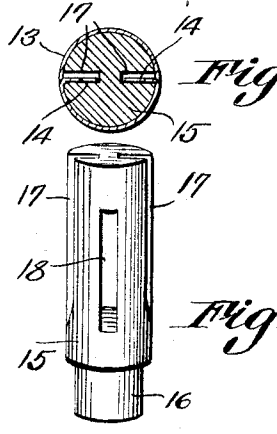


Fig. 5.

Fig. 6.

Inventor

D. L. Betts

By C. A. Snow & Co.

Attorneys.

Patented May 8, 1928. 1,669,118

UNITED STATES PATENT OFFICE.

DARROW L. BETTS, OF JEROME, ARIZONA.

ARROWHEAD.

Application filed November 9, 1927. Serial No. 232,072.

This invention has reference to toys and aims to provide a novel form of arrow head to be used in connection with arrows or projectiles shot from a bow, the primary object of the invention being to provide means in the head for firing a cap to cause a loud report when the arrow head contacts with an object at which the arrow has been shot.

An important object of the invention is to provide a head of this character wherein a cap may be supported therein and held in such a way as to insure against the cap becoming displaced while the arrow is in flight.

A still further object of the invention is to provide an arrow head including a movable plunger, means being provided to guide the plunger to the cap, to insure the operation of the device to explode the cap.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed, may be made within the scope of what is claimed, without departing from the spirit of the invention.

Referring to the drawing:

Figure 1 is an elevational view of an arrow equipped with a head constructed in accordance with the invention.

Figure 2 is an enlarged elevational view of a head.

Figure 3 is a vertical sectional view through the arrow head.

Figure 4 is a longitudinal sectional view taken at right angles to Figure 3.

Figure 5 is a sectional view taken on line 5—5 of Figure 3.

Figure 6 is a detail view of the plunger.

Referring to the drawing in detail, the reference character 5 designates an arrow constructed preferably of wood, the same being provided with an elongated cut out portion 6 and a cut out portion 7, the cut out portion 7 defining a housing for the coiled spring 8.

Positioned on the outer end of the arrow 5 is a sleeve 9 having a closed end 10, which closed end provides a support or firing surface for the explosive cap which is indicated at 11.

The sleeve 9 is also formed with elongated openings formed therein, which openings accommodate the pin 12 carried by the movable sleeve 13 to the end that the sleeve 13 may move longitudinally of the arrow.

The pin 12 engages one end of the coiled spring 8 and holds the spring 8 under tension so that the sleeve 13 will normally be held under the action of the coiled spring 8. Extending inwardly from the sleeve 13 are fingers 14 that are designed to rest on the cap supported by the device, and which in the present showing is indicated by the numeral 11 to clamp the cap and hold it in position to be fired, to the end that it will not fall from the arrow head while the arrow is in flight.

Operating within the outer end of the sleeve 13 is a firing plunger 15 that is provided with a recess to receive the rubber cushioning member 16. As shown, this plunger 15 is formed with inclined grooves 17 disposed in opposite sides thereof, which grooves accommodate the inwardly extended fingers 14 which act as guides to guide the plunger 15 within the sleeve 13.

Formed in the plunger 15 is an elongated opening 18 in which the pin 19 operates, the pin 19 being secured to the sleeve 13 adjacent to the outer end thereof.

Thus it will be seen that due to this construction, the plunger may move within the sleeve 13 but be restricted in its movement, to the end that it will not be thrown from the sleeve 13 while the arrow is in flight.

From the foregoing it will be obvious that when a cap is positioned within the head of the arrow, it will be securely held between the fingers 14 and end of the arrow and when the arrow head strikes an object, the plunger will be forced against the cap to explode the cap.

I claim:

1. In an arrow, a head including a sleeve having a closed extremity and positioned over one end of the arrow, a sleeve movable over the first mentioned sleeve, a coiled spring positioned within the arrow, a pin extending through the arrow and having connection with the last mentioned sleeve, said spring resting on the pin to normally tension the spring to move the last mentioned sleeve with respect to the arrow, means carried by the second mentioned sleeve for engaging an explosive cap positioned on the closed end of the first mentioned sleeve to hold the cap against displacement, and a plunger movable in the

second mentioned sleeve for engaging the cap to explode the cap when the arrow head engages a stationary object.

2. In an arrow, a head including a sleeve, said sleeve being positioned over one end of the arrow and adapted to move with respect thereto, a coiled spring for normally urging the sleeve in one direction, fingers carried by the sleeve and adapted to engage a firing cap supported on one end of the arrow, and a movable plunger operating in the sleeve to engage the firing cap to explode the cap when the plunger contacts with an object at which the arrow has been shot.

3. In an arrow, a sleeve having a closed end positioned over one end of the arrow, said closed end defining a firing surface, a movable sleeve operating over the first mentioned sleeve, means carried by the second mentioned sleeve for forcing a firing cap onto the firing surface to hold the cap against accidental displacement, and a movable member operating in the outer end of the second mentioned sleeve and adapted to contact with the cap supported on the firing surface to fire the cap.

In testimony that I claim the foregoing as my own, I have hereto affixed my signature.

DARROW L. BETTS.