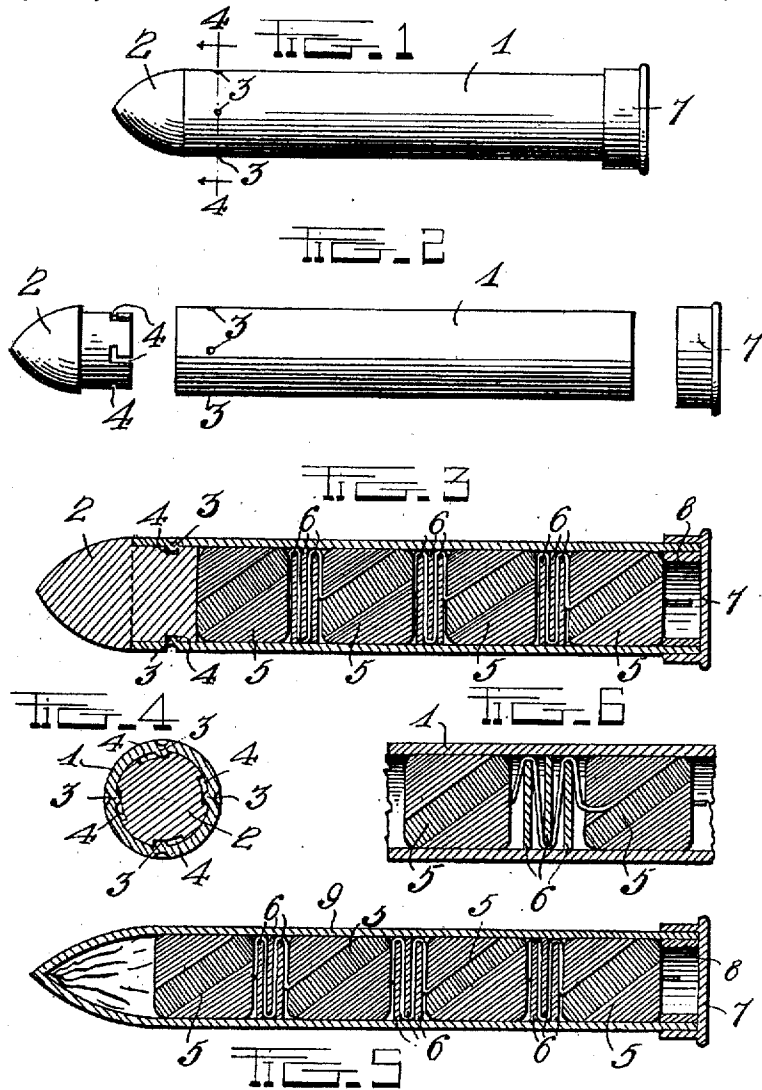


I. J. GLERUM.
LIFE LINE PROJECTILE.
APPLICATION FILED JUNE 1, 1911.

1,017,745.

Patented Feb. 20, 1912.



Witnesses

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INGEBRIGT J. GLERUM, OF DEVILS LAKE, NORTH DAKOTA.

LIFE-LINE PROJECTILE.

1,017,745.

Specification of Letters Patent.

Patented Feb. 20, 1912.

Application filed June 1, 1911. Serial No. 630,586.

To all whom it may concern:

Be it known that I, INGBRIGT J. GLERUM, a citizen of the United States, residing at Devils Lake, in the county of Ramsey and State of North Dakota, have invented certain new and useful Improvements in Life-Line Projectiles; and I do declare the following to be a full, clear, and exact description of the invention, such as will enable others skilled in the art to which it appertains to make and use the same.

This invention relates to improvements in projectiles for carrying life lines.

One object of the invention is to provide a projectile of this character constructed in such manner and of such material that it will not injure anyone when falling to the ground after having been projected for carrying the life line to the desired point.

Another object is to provide a life line projectile of this character having an improved construction and arrangement whereby the line will freely uncoil and pay out from the projectile without becoming tangled.

Another object is to provide means whereby the compressed air or other propelling fluid will be prevented from disturbing the arrangement of the line in the projectile or interfering with the proper unwinding of the coils when the projectile is discharged.

With these and other objects in view, the invention consists of certain novel features of construction, combination and arrangement of parts as will be more fully described and particularly pointed out in the appended claims.

In the accompanying drawings: Figure 1 is a side view of my improved line carrying projectile; Fig. 2 is a similar view showing the parts separated; Fig. 3 is a central longitudinal sectional view of the projectile; Fig. 4 is a vertical cross sectional view on the line 4-4 of Fig. 1; Fig. 5 is a longitudinal sectional view of a modified form of the projectile. Fig. 6 is a detail sectional view of a portion of the projectile showing the manner in which the disks are arranged between the balls of cord in the projectile and the manner in which the cord passes around and between the disks from one ball to another.

My improved projectile is preferably formed of paper but may be constructed of any suitable material which will not be likely to cause injury or damage when fall-

ing to the ground after having been projected.

The projectile as shown in the first figures of the drawing comprises a tubular cylindrical body portion 1 in the outer end of which is arranged a bullet shaped head 2 formed of suitable material for imparting the proper weight to the outer end of the projectile and to partly overcome the resistance of the outpaying of the line. The head 2 is detachably secured in the outer end of the body 1 in any suitable manner and is here shown as being preferably secured by means of a series of studs 3 formed on the inner surface of the outer end of the body 1, preferably formed by indenting the side of the tube as shown. In the outer side of the inner end of the head 2 is formed a series of right angularly shaped grooves 4 in which the studs 3 are adapted to be engaged when the head is inserted into the outer end of the body and turned in the proper direction thereby fastening the head in the end of the tube and forming a fluid tight joint.

The line is arranged in the body 1 of the projectile in the form of a series of balls 5 wound in the same manner as an ordinary ball of twine is wound and between each two balls when placed in the body 1 is arranged a series of loose disks 6 formed of paper as shown in Figs. 3, 5 and 6 separating the balls and preventing the pressure of the air or other projecting fluid from dislocating the coils in the balls of the line and thus causing the latter to pay out double or to become tangled. The inner end of the line of one ball is passed diametrically around and between the disks between it and the next ball and is connected with the outer end of the line of the next ball toward the inner end of the projectile, and the outer end of the line of the first ball in the front end of the projectile being connected to the head or end of the projectile. The inner end of the rear or innermost ball in the projectile is secured in any suitable manner in the end of the gun barrel from which the projectile is thrown. The pressure of the propelling fluid, in the absence of the separating disks, would tend to press the balls together and cause their adjoining coils to become matted or entangled but this is prevented by the disks, and as the end of the line of each ball is reached in paying out the line, the pull on the line will tip the

disks of the series consecutively but in opposite directions so that the continued paying out of the line will not be interfered with. In order to prevent the contents of the projectile from becoming damp or from being disturbed in any manner the rear end of the projectile is preferably closed and sealed by a suitable cap 7 which is preferably constructed of wax paper or other similar material, said cap being adapted to be removed when the projectile is placed in the gun. In the rear end of the projectile is arranged a stop collar 8 which is adapted to hold the ball firmly pressed together and to prevent the same from being shaken while in transportation or from sliding out of the rear end of the projectile while the latter is in motion. The collar 8 is glued or otherwise suitably secured to the inner side of the projectile.

In Fig. 5 of the drawing is shown a slightly modified construction of projectile 9 in which the outer end of the tube is crimped or otherwise drawn together and sealed by gluing or otherwise cementing the same together to form a fluid tight closure. The latter form of the projectile is adapted more especially for use in connection with lines thrown over or into a burning building wherein there is danger of the projectile striking the occupants of the building or when thrown over the building from falling upon any one passing by the opposite side of the building. By forming the projectile without a head as just described the same will be light in weight and will not be apt to injure any one if struck thereby. In this form of the projectile the balls of cord or twine forming the line provide the necessary weight for causing the projectile to be accurately thrown. When the projectile is to be used for buildings the line will be preferably of sufficient length to permit the projectile to pass over the building and drop down on the opposite side thereof.

From the foregoing description taken in connection with the accompanying drawings, the construction and operation of the invention will be readily understood without requiring a more extended explanation.

Various changes in the form, proportion and the minor details of construction may

be resorted to without departing from the principle or sacrificing any of the advantages of the invention as claimed.

Having thus described my invention what I claim is:

1. A life line projectile comprising a tubular body portion, a line disposed therein arranged in a series of balls having their ends connected together, a series of disks arranged between the balls of the twine forming the line, means to hold the balls firmly pressed together and to prevent the balls from being shaken while in transportation and from sliding out while the projectile is in motion, and means to close and seal the inner end of the projectile.

2. A life line projectile comprising a tubular cylindrical body portion, a head having a detachable engagement with the forward end of said tubular body portion, a line disposed in said tube arranged in the form of a series of balls, the outer end of each of which is connected to the inner end of the next forward ball, means to separate said balls, and to prevent the pressure of the propelling fluid from disturbing or interfering with the proper unwinding of the line, and a cap adapted to close the rear end of the projectile when the latter is not in use.

3. A projectile of the character described comprising a tubular body portion constructed of light material and having its forward end sealed to form a fluid tight closure, a line arranged in said tube, said line comprising a series of balls arranged in the body portion of the projectile, series of loose disks arranged between said balls, a collar arranged in the rear end of the projectile to hold the balls in place, and a removable cap adapted to be applied to the rear end of the tubular body portion of the projectile whereby the rear end of the latter is closed and sealed and the contents thus protected.

In testimony whereof I have hereunto set my hand in presence of two subscribing witnesses.

INGEBRIGT J. GLERUM.

Witnesses:

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M. E. REARDON.