

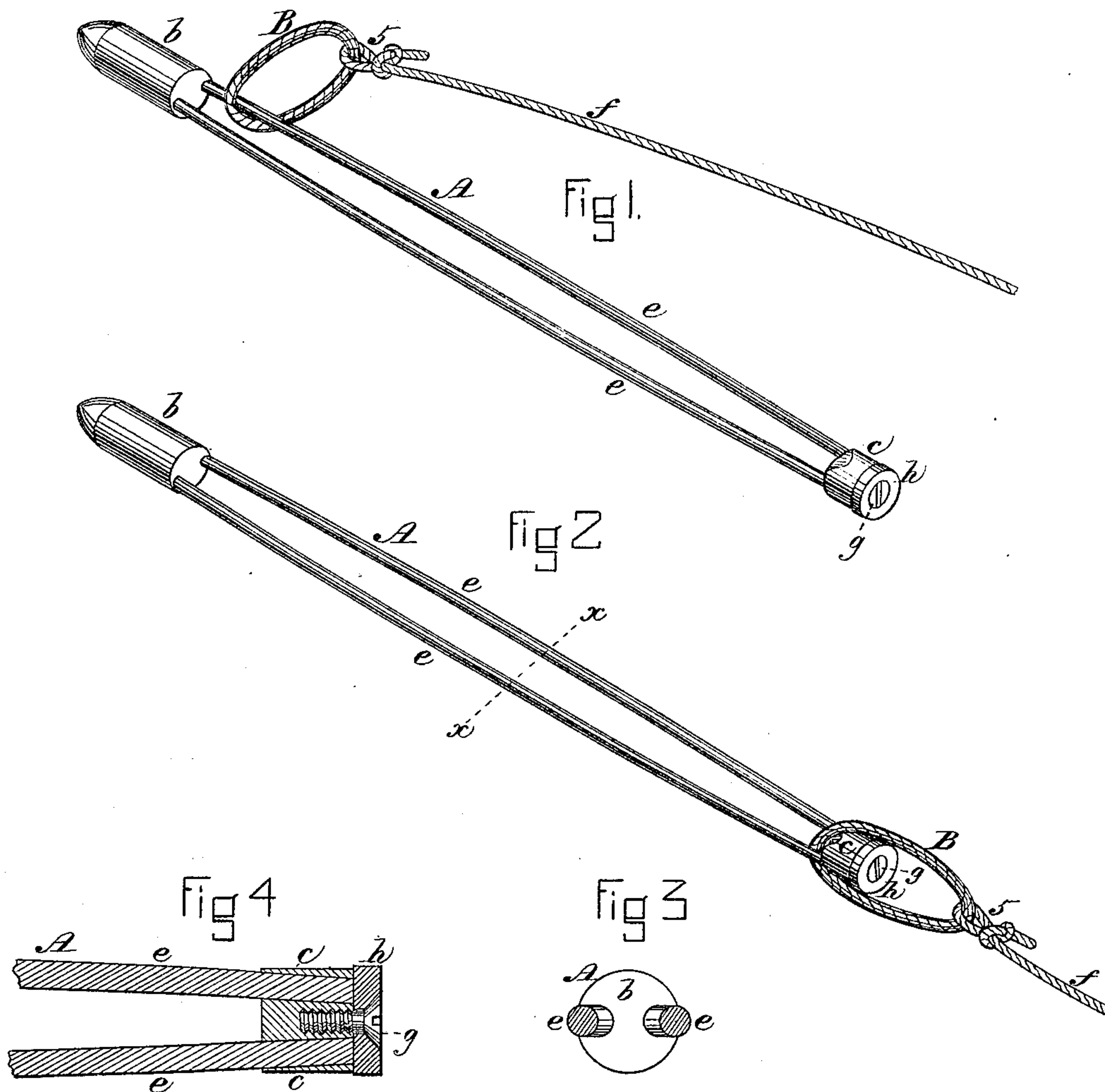
(No Model.)

G. F. GRIFFIN & C. W. DIXON.

LINE CARRYING PROJECTILE.

No. 289,909.

Patented Dec. 11, 1883.



WITNESSES  
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# UNITED STATES PATENT OFFICE.

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ASSIGNORS TO THE NEW ENGLAND PATENT FIRE ESCAPE COMPANY, OF  
SAME PLACE.

## LINE-CARRYING PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 289,909, dated December 11, 1883.

Application filed September 14, 1883. (No model.)

*To all whom it may concern:*

Be it known that we, GEORGE F. GRIFFIN and CHARLES W. DIXON, citizens of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain Improvements in Projectiles for Carrying Lines for Saving Life and for other Purposes, of which the following is a full, clear, and exact description, reference being had to the accompanying drawings, making part of this specification, in which—

Figure 1 is a perspective view of our improved line-carrying projectile, the becket or ring and line being represented in the position which they occupy when the projectile is in the gun, ready to be discharged. Fig. 2 is a perspective view of the projectile with the becket or ring and line in the position which they occupy during its flight. Fig. 3 is a transverse section on the line  $xx$  of Fig. 2, enlarged. Fig. 4 is a longitudinal section of the rear end of the projectile, enlarged.

Our invention relates to certain improvements in projectiles for carrying life-saving and other lines, and has for its object to cause the end of the line which is attached to the projectile to shift its position at the moment of discharge from the side to a point behind the projectile directly in line with the longitudinal axis thereof, whereby the turning of the projectile end over end during its flight is prevented, and a straight flight and longer range insured, and the projectile also enabled to be discharged with a low initial velocity, and the liability of the line or its connections being broken by the concussion produced at the instant of discharge avoided.

To this end our invention consists in a projectile composed of a head and a rear portion connected by longitudinal rods, and provided with a becket or ring adapted to slide upon one or more of the connecting-rods, the end of the line to be carried being secured to the becket or ring, which, on coming into contact with the rear end of the projectile, swings centrally over the same in such manner as to hold the end of the line during the flight of the projectile in a position in the rear of the same directly in line with the longitudinal axis

thereof; and our invention also consists in certain details of construction, as hereinafter set forth and specifically claimed.

In the said drawings, A represents the projectile, which is composed of a head,  $b$ , preferably provided with a conical point, and a rear portion,  $c$ , connected together by a series of rods,  $e$ , composed, preferably, of spring metal, the head  $b$  being heavier than the rear portion,  $c$ , in order that it may remain always in advance during the flight of the projectile. The rods  $e$  are preferably slightly curved or bowed outward at the center, so that when the projectile is placed within the barrel of the gun from which it is to be discharged the rods will be compressed slightly toward each other, causing them to spring outward against the interior of the barrel, and thus steady the projectile and keep it in a proper central position. The rods  $e$  are, further, of great importance, as they can be spread more or less apart to enable the projectile to fit bores of different sizes, which is a necessity to keep the projectile in its proper central position and insure accuracy of flight. Were it not for this construction, the projectile would only be adapted for use with a gun of a given size of bore. Over one of the rods  $e$  is placed a becket or ring, B, preferably composed of strong cord or other pliable material, which is thus securely confined between the head and rear portion of the projectile, and is adapted to slide from one end to the other of the rod  $e$  over which it is placed. When the projectile is within the gun, ready to be discharged, the head  $b$  and front portions of the rods  $e$  extend beyond the muzzle, the line  $f$  to be carried being secured to the becket or ring B, which is first slid close up to the head  $b$ , as seen in Fig. 1. On the discharge of the projectile the becket B slides down its rod  $e$  until it is brought into contact with the rear end or portion,  $c$ , when it swings centrally over this portion, as seen in Fig. 2, and brings the attached end of the line  $f$  into a position centrally behind the projectile directly in a line formed by the prolongation of the longitudinal axis thereof, this automatic shifting of the line  $f$  from the side of the projectile having its heavier end



in front to a central position in the rear thereof, as described, insuring accuracy of flight, and a longer range than is the case with the projectiles in ordinary use for this purpose, 5 which either turn rapidly end over end in their flight, thus shortening the range, or else are deviated from their true course by the line being attached at the side. With our improved construction the initial velocity re- 10 quired to be given to the projectile to cause it to be thrown accurately to the desired distance can be reduced to a minimum, and the liability of breakage of the line or its connections thus avoided.

15 We do not confine ourselves to the employment of only two connecting-rods *e*, as shown, as a series of three or more may be used, if desired, in which case the becket or ring B may be made to slide over more than 20 one rod *e*, provided the arrangement is such as to allow the becket to swing centrally, or nearly so, over the rear portion of the projectile, to carry the attached end of the line *f* into a central position behind the projectile, as 25 previously described.

To the rear end of the portion *c* is secured by means of a single screw, *g*, extending in the direction of the length of the projectile, a disk, *h*, of leather, rubber, or other suitable 30 material, which thus forms a packing to cause the rear portion of the projectile to accurately and tightly fit the bore of the gun, and when this packing is worn out it can be readily re-

moved, by taking out the screw *g*, and replaced by a new one.

Although we have described our projectile 35 as adapted to be discharged from a fire-arm, it is obvious that it may be thrown by any other suitable means or apparatus adapted for the purpose. 40

What we claim as our invention, and desire to secure by Letters Patent, is—

1. A line-carrying projectile consisting of the cylindrical conical head *b* and the rear 45 slotted portion, *c*, to which is secured an elastic removable disk, *h*, the head and rear portion, *c*, being connected by outwardly-curved or bowed spring-rods *e e*, whereby the projectile is adapted to fit guns of different-sized bores, in combination with the sliding becket 50 B, adapted to support or carry a line all substantially as described, and for the purposes set forth.

2. In a line-carrying projectile, the head *b* and rear portion, *c*, made lighter than the 55 head, in combination with the bowed or outwardly-curved spring-rods *e e*, whereby the rods are adapted to fit bores of different sizes, substantially as shown and described.

Witness our hands this 12th day of September, 60 A. D. 1883.

GEORGE F. GRIFFIN.  
CHARLES W. DIXON.

In presence of—

P. E. TESCHEMACHER,  
JAMES P. TOLMAN.