(No Model.)

L. GATHMANN.

PROJECTILE.

No. 502,713. Patented Aug. 8, 1893.

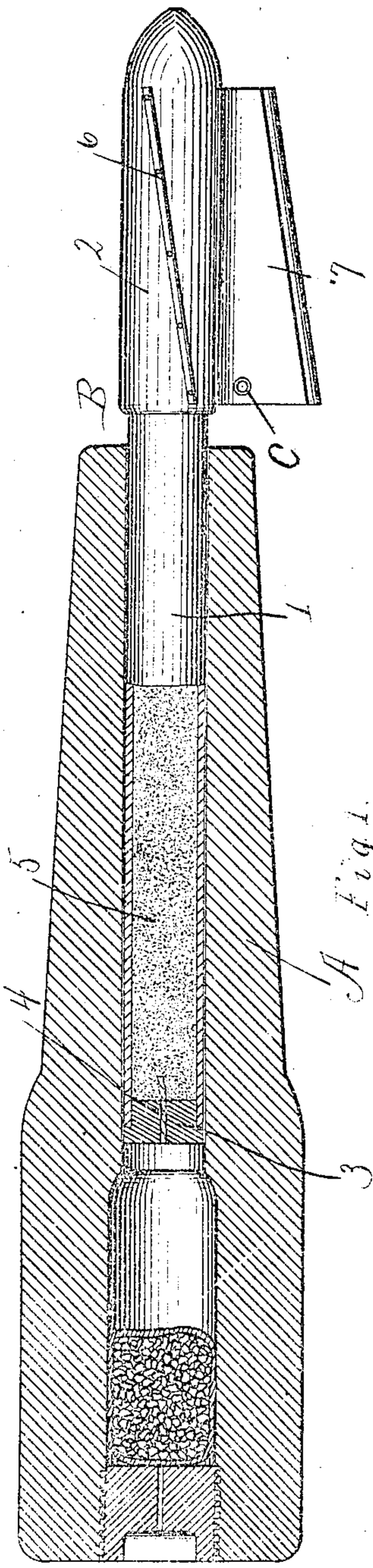

Fig. 1.

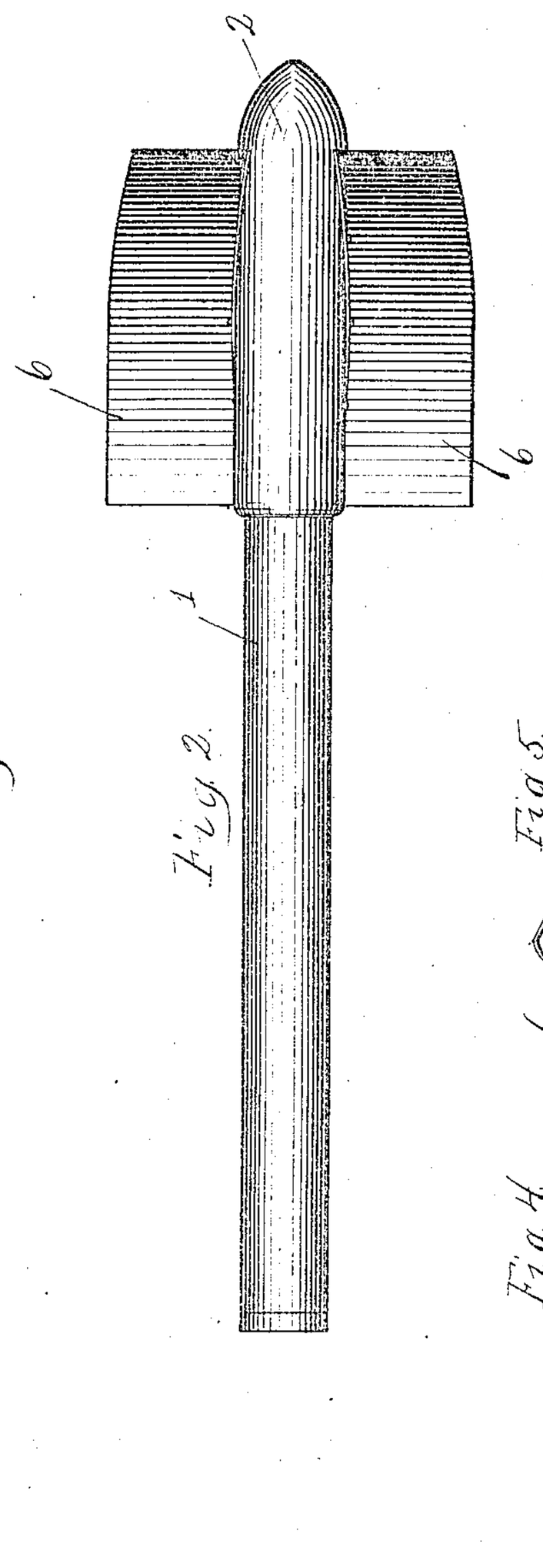

Fig. 2.

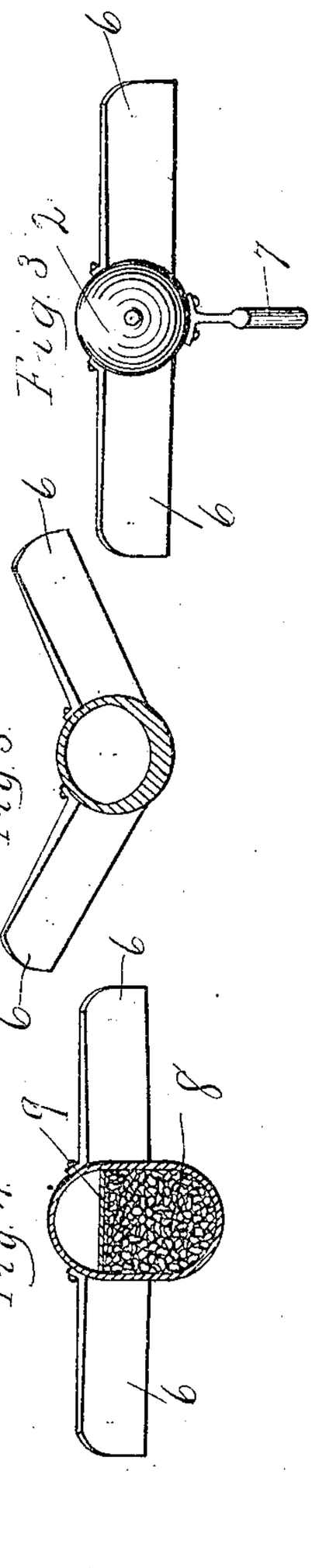

Fig. 3.

Fig. 5.

Fig. 4.

Witnesses
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UNITED STATES PATENT OFFICE.

LOUIS GATHMANN, OF CHICAGO, ILLINOIS.

PROJECTILE.

SPECIFICATION forming part of Letters Patent No. 502,713, dated August 8, 1893.

Application filed April 19, 1892. Serial No. 429,809. (No model.)

To all whom it may concern:

Be it known that I, LOUIS GATHMANN, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented certain new and useful Improvements in Projectiles; and I do hereby 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 a novel construction in a projectile for ordnance, the object being to provide a projectile that can be charged with a large amount of high explosives, oil, &c., or that can be left empty so that it will float, or its front section may be solid and of the same diameter as the rear, and that can be fired from a piece of ordnance with great accuracy to a far range; means are also provided for fastening a life line to the projectile if desired, and by this means said life line can be thrown farther and with greater accuracy than heretofore attained.

The invention consists in the features of construction and combination of parts hereinafter fully described and specifically claimed.

In the accompanying drawings illustrating my invention,—Figure 1 is a central longitudinal sectional view of a piece of ordnance with a projectile constructed in accordance with my invention in place therein and shown partly in section and in elevation. Fig. 2 is a top plan view of such projectile. Fig. 3 is an end elevation. Figs. 4 and 5 are modified forms of construction embodying my invention.

Referring now to said drawings, A indicates a piece of ordnance of familiar construction and B indicates as a whole my improved projectile. The said projectile B embraces a rear section 1 and a front section 2. The rear section 1 is of such a size as to enter the barrel of the gun from which it is to be fired, while the front section 2 is of greater diameter than said rear section and does not enter the said barrel as shown in Fig. 1. The front section 2 is charged with a high explosive to be exploded by means of a percussion cap, a time fuse, or rocket powder, as may be convenient. If said section is filled with oil, this may be released in a similar manner.

Within the rear section is located a charge 5 of what is known as "rocket powder" and a plug 3 is inserted in the end of said rear section 1, through which plug 3 extends a fuse 4. It will thus be seen that when a projectile of this kind is fired from a gun, that by means of the fuse 4 the rocket powder charge will be ignited and will eject the plug 3 and will serve to give an additional impetus to the projectile, so that it will be carried farther than an ordinary charge of the gun would carry it. And it will be noted that the fuse 4 can be timed to ignite the charge 5 at the time its effect will be most efficient. The powder charge is but small for the first propelling power of the projectile, as by this means the projectile or torpedo (which is but a light shell) is protected from the severe shock in firing; otherwise the projectile would be fractured or the life line be broken. I have also provided further means to increase the range and accuracy of the projectile, which consists in providing devices whereby should the projectile strike the water short of its mark it will not sink but will advance along the surface of the water toward the vessel or mark. To attain the object the front section 2 of the projectile is provided with the straight lateral wings 6 that are inclined upwardly toward the front end of the projectile. The projectile is weighted at its bottom to cause it to maintain its proper position during its flight, and in Figs. 1, 2, and 3 a weight 7 secured to the bottom of the front section 2 is shown, which is tapered down toward the front end of the projectile to reduce the friction.

It will be seen from the foregoing description that when a projectile of this construction is fired from a gun, the upwardly inclined wings will serve to hold the projectile in its flight longer than if unprovided with same, and further, that should the projectile before losing its impetus, reach the surface of the water short of its mark, the said wings will also prevent the projectile from sinking into the water, but will serve to keep it upon the surface thereof so that it will reach its mark.

It will be noted that various constructions could be resorted to, to weight the lower side of the projectile, and in Fig. 4 I have shown the front section 2 of the same as elliptical in

cross-section and with the charge 8 located in the bottom of the said elliptical section and retained in such position by a plate 9.

In Fig. 5 is shown another modification which consists in making the front section 2 of the projectile thicker at its lower side, and in inclining the wings 6 outwardly and upwardly.

In Fig. 1 is shown an eye C, on the projectile to which is fastened a life line when desired. It is understood that said front section of projectile in this case, is either filled with oil to smooth the water if necessary, or if necessary the projectile may be left empty to prevent it from sinking if fired with the air current so it will float to its mark, but if fired against the air currents then it will be advisable to have the diameter of front end of projectile no larger, but rather smaller than the rear end and solid in order to cause as little friction in its flight through the air as possible.

I do not, in this application, claim certain features shown herein, but which are claimed in another application filed by myself in the United States Patent Office April 19, 1892, Serial No. 429,810.

I claim as my invention—

1. A projectile having a hollow forward end portion to receive an explosive charge and provided with wings inclined upwardly toward the front end of the projectile.

2. A projectile having a hollow forward end portion to receive an explosive charge and provided with wings inclined laterally upward toward their outer edges.

3. A projectile having a hollow forward end portion to receive an explosive charge and provided with wings inclined upwardly toward their front ends and toward their outer edges.

4. A projectile having a hollow forward end portion to receive an explosive charge and provided with horizontally arranged wings and with a weighted bottom portion.

5. A projectile having a hollow forward end portion to receive an explosive charge and provided with wings inclined upwardly toward the front end of the projectile and with a weighted bottom portion.

6. A projectile having a hollow forward end portion to receive an explosive charge and provided with wings inclined laterally upward toward their outer edges and with a weighted bottom portion.

7. A projectile having a hollow forward end portion to receive an explosive charge and provided with wings inclined upwardly toward their front ends and toward their outer edges, and with a weighted bottom portion.

8. A projectile provided at its forward end portion with wings inclined upwardly toward the front end of the projectile, and with a hollow rear end portion to receive a propelling charge.

9. A projectile provided at its forward end portions with wings inclined upwardly toward the front end of the projectile, and a weighted bottom portion, and with a hollow rear end portion to receive a propelling charge.

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

LOUIS GATHMANN.

Witnesses:
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