

No. 765,769.

PATENTED JULY 26, 1904.

G. E. EDGAR.

SAFETY DEVICE FOR AUTOMOBILE TORPEDOES.

APPLICATION FILED OCT. 20, 1903.

NO MODEL.

Fig. 1.

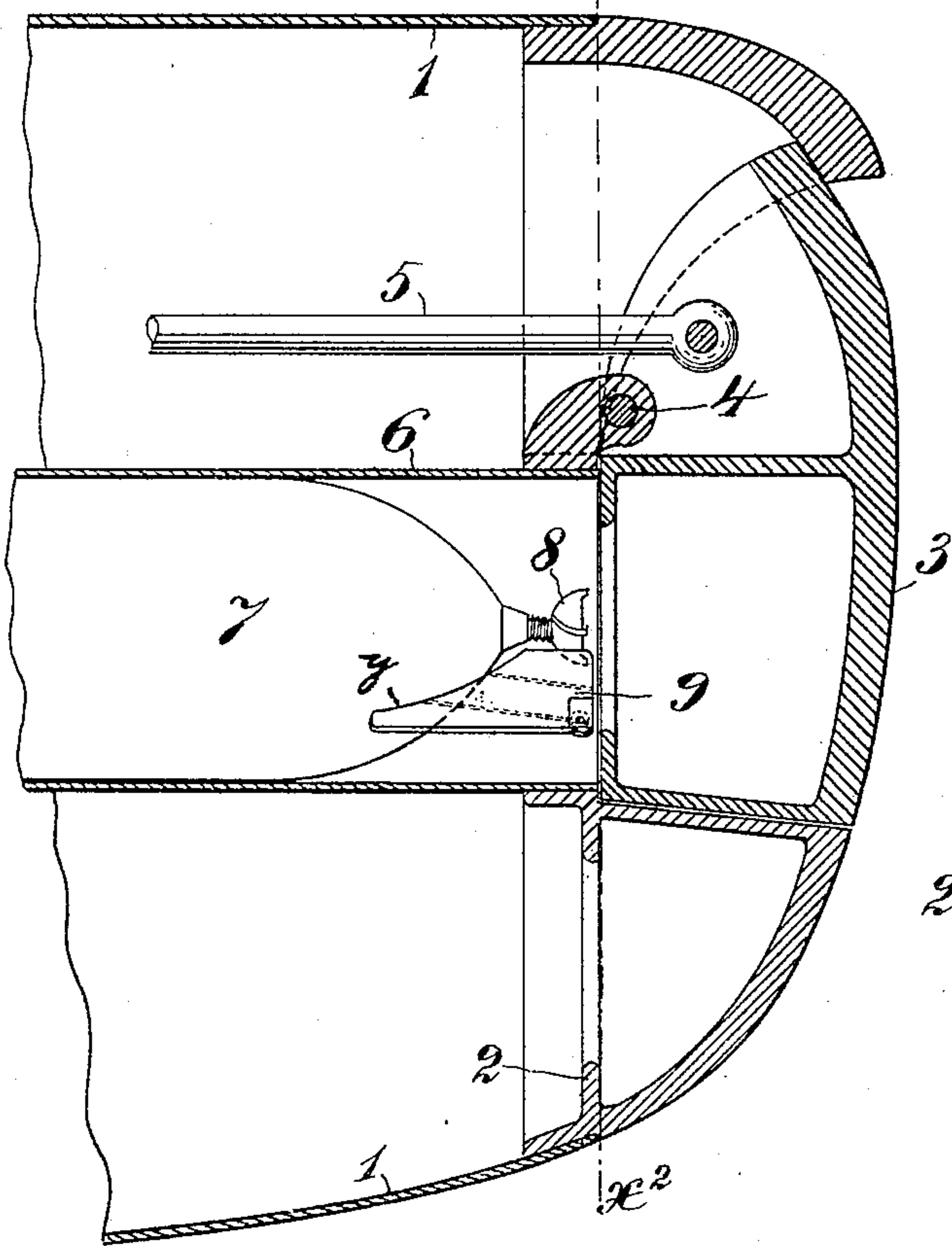


Fig. 2.

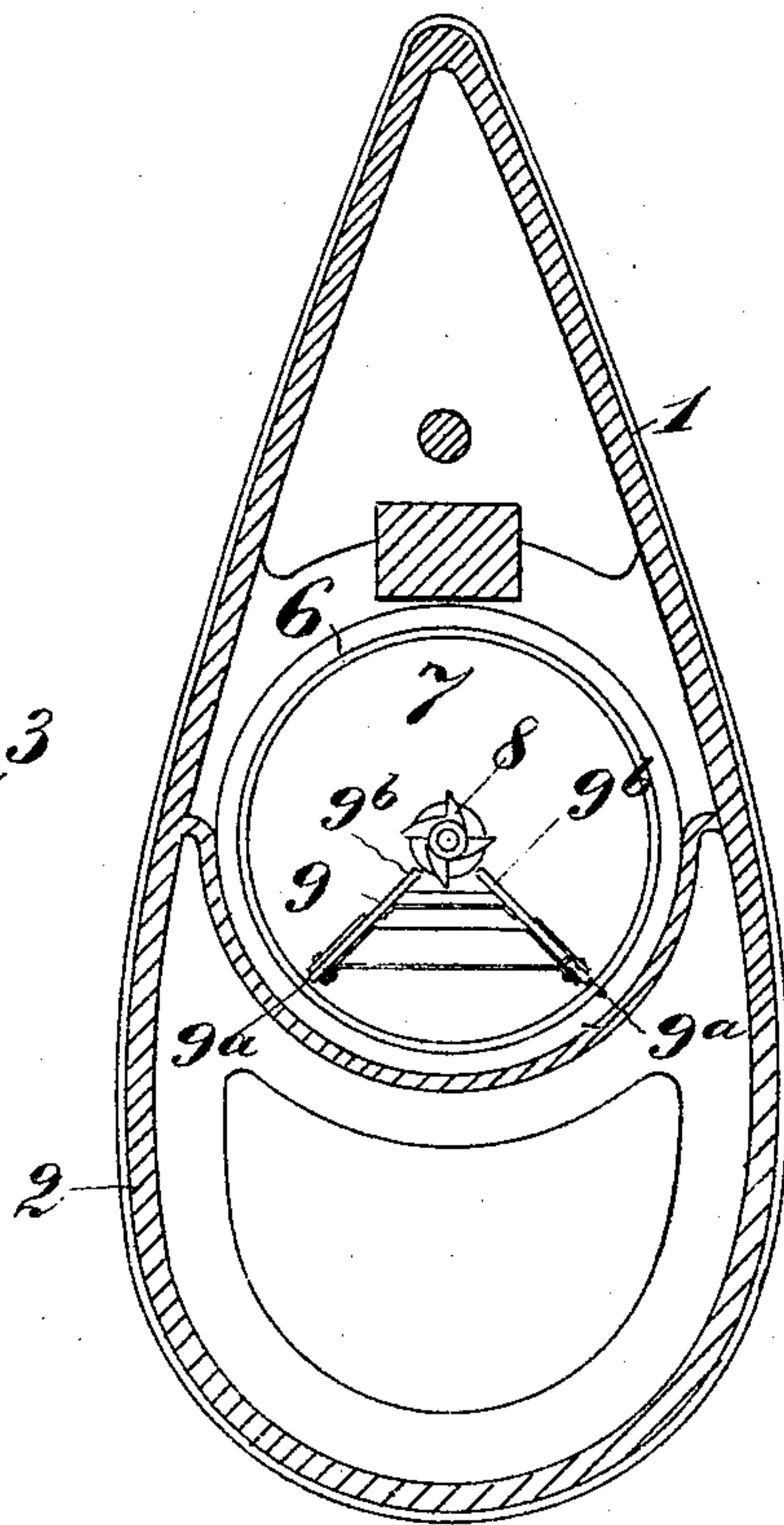
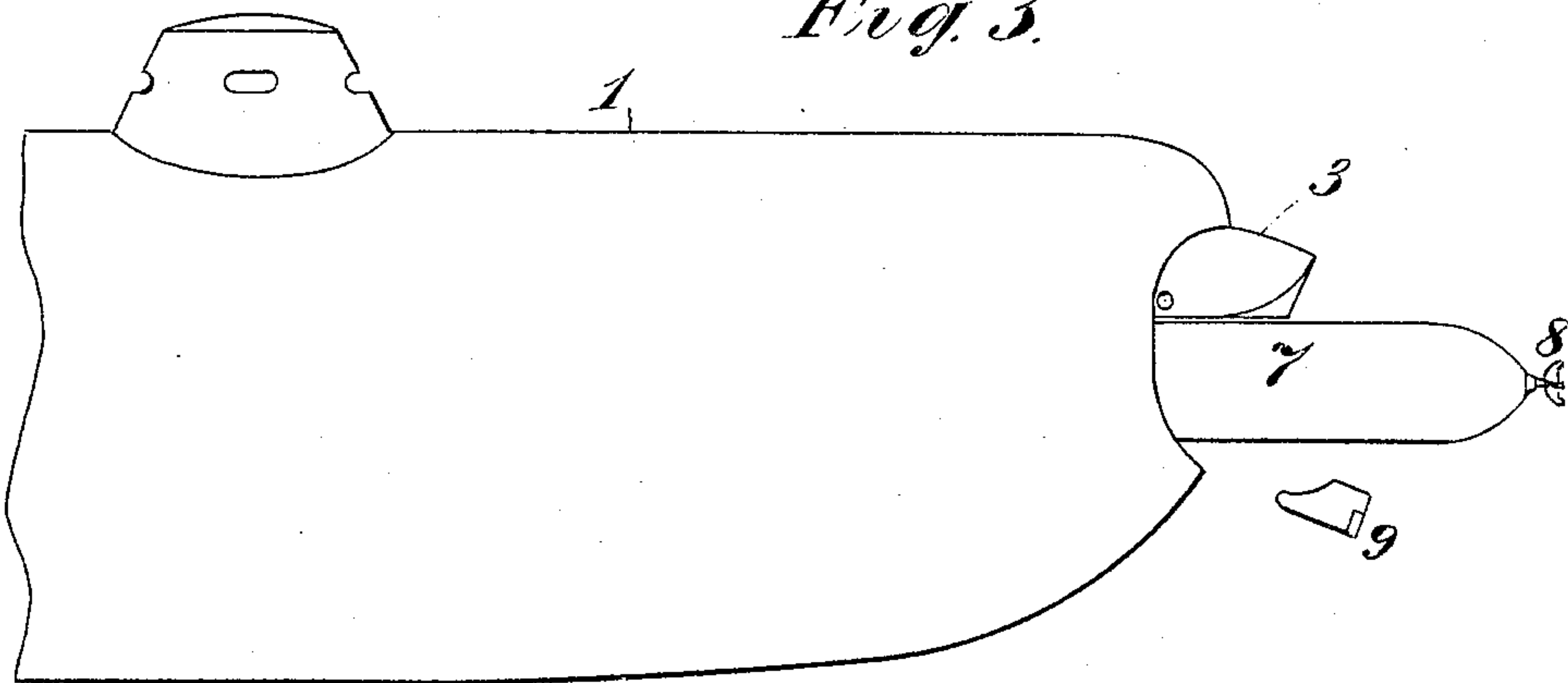


Fig. 3.



WITNESSES:

J. M. Wiman
M. A. Leonard

INVENTOR

Grand E. Edgar
BY
Henry C. Connelley
ATTORNEY

UNITED STATES PATENT OFFICE.

GRANT E. EDGAR, OF NEW SUFFOLK, NEW YORK, ASSIGNOR TO ELECTRIC BOAT COMPANY, OF NEW YORK, N. Y., A CORPORATION OF NEW JERSEY.

SAFETY DEVICE FOR AUTOMOBILE TORPEDOES.

SPECIFICATION forming part of Letters Patent No. 765,769, dated July 26, 1904.

Application filed October 20, 1903. Serial No. 177,807. (No model.)

To all whom it may concern:

Be it known that I, GRANT E. EDGAR, a citizen of the United States, residing at New Suffolk, in the county of Suffolk and State of New York, have invented certain new and useful Improvements in Safety Devices for Automobile Torpedoes, of which the following is a specification.

This invention relates to the class of vessels which have normally submerged expulsion-tubes for expelling, by known means or by any means, an automobile torpedo—such as the Whitehead torpedo, for example; and the object of the invention is to provide means for preventing the operation of the automobile firing device of the torpedo until the latter shall have emerged from the expulsion-tube and to provide a lock or guard for such device while the torpedo is in the tube.

In the accompanying drawings, which illustrate one embodiment of the invention, Figure 1 is a longitudinal vertical axial section of the forward portion of a submarine torpedo-boat provided with this invention, and Fig. 2 is a transverse section at line x^2 in Fig. 1 looking aft. Fig 3 is a side elevation, on a relatively small scale, of the forward part of a submarine boat, illustrating the operation of the invention.

1 designates the hull or shell of the boat; 2, the nose-piece at the stem thereof; 3, the cap turning about a hinge or pivot at 4; 5, the rod for operating this cap, and 6 the expulsion-tube fixed in the boat. The construction of these parts is the usual one. In the expulsion-tube is a torpedo 7, provided at its forward end with an automatic firing device 8, having a rotating propeller. Such a torpedo is also well known.

9 is the locking detainer or guard, which may have almost any form. As here shown, this guard consists of a triangular carriage, with rollers 9^a, which bear on the inner surface or wall of the cylindrical expulsion-tube and roll along the same, and prongs 9^b, which loosely engage the blades of the propeller of the firing device 8 of the torpedo and prevent it from rotating. The guard or detainer 9

fits at y , Fig. 1, up to the rounded or convex surface of the nose of the torpedo, and the guard when in place, as in Fig. 1, interposes between the torpedo and the cap 3, being in front of the former.

The operation of the guard is as follows: The expulsion-tube being empty, the cap 3 closed, and the gate at the inboard end of the tube open, the guard 9 is introduced at the inboard end of the tube and the torpedo then introduced. The torpedo when pushed forward into place in the tube carries the guard 9 forward with it to the position seen in Fig. 1. The gate at the inboard end of the tube is now closed and the cap 3 opened, thus admitting water to the tube, and the guard 9 prevents the influx of the water from operating or in any way acting on the automatic firing device 8 by preventing the rotating of the small propeller of this device. This propeller would otherwise be liable to be rotated by the forcible influx of the sea-water or by the forward movement of the vessel through the water. The torpedo may now be expelled by known means, and in moving out of the tube it carries with it the free or unattached guard 9, which when clear of the tube sinks, as seen in Fig. 3, being heavier than water, thus permitting the torpedo to move on to its goal unobstructed.

I am the first, as I believe, to employ, in connection with a torpedo in an expulsion-tube, a guard to perform the function or duty set forth above, and therefore I do not wish to limit myself to the specific form of the device shown and described herein, as it is within the skill of any good mechanic to devise other forms thereof. It is only essential that the device shall engage with the firing device of the torpedo in a manner to prevent the operation of the latter while the torpedo is in the tube and that the guard shall be free from both the tube and the torpedo and loose, so that the latter shall carry the guard out with it when expelled.

It will be noted that while the detaining device or guard engages loosely with the automatic firing device of the torpedo it is not at-

tached thereto, being kept in place merely by resting on inner surface of the tube.

Having thus described my invention, I claim—

5 1. The combination with a torpedo in an expulsion-tube and provided with an automatic firing device, of a detaining device or guard also in said tube and loosely engaging some part of said firing device to prevent the operation of the latter while the torpedo is in the tube, substantially as set forth.

10 2. The combination with a torpedo in an expulsion-tube and having an automatic firing device provided with a rotatable propeller, of a guard or detaining device also in said tube and having parts engaging said propeller to prevent its rotation, said device being movable in the tube and free to be expelled with the torpedo, substantially as set forth.

15 20 3. The combination with a torpedo in an expulsion-tube and having at its nose or forward end an automatic firing device rotatable when the torpedo advances through the water, of a

guard loose in the said tube in front of said torpedo and engaging loosely with the said firing mechanism to prevent its operation while the torpedo is in the tube, substantially as set forth.

4. The combination with a torpedo provided at its nose with an automatic firing device having a rotatable propeller adapted to revolve when the torpedo moves through the water, of a guard in front of the torpedo and movable in the expulsion-tube, said guard having prongs which loosely engage the blades of the said propeller and prevent the latter from rotating until the guard is expelled from the said tube.

In witness whereof I have hereunto signed my name, this 15th day of October, 1903, in the presence of two subscribing witnesses.

GRANT E. EDGAR.

Witnesses:

H. G. TUTHILL,
F. L. BEALL.