

957,670.

Patented May 10, 1910.

3 SHEETS—SHEET 1.

Fig.1

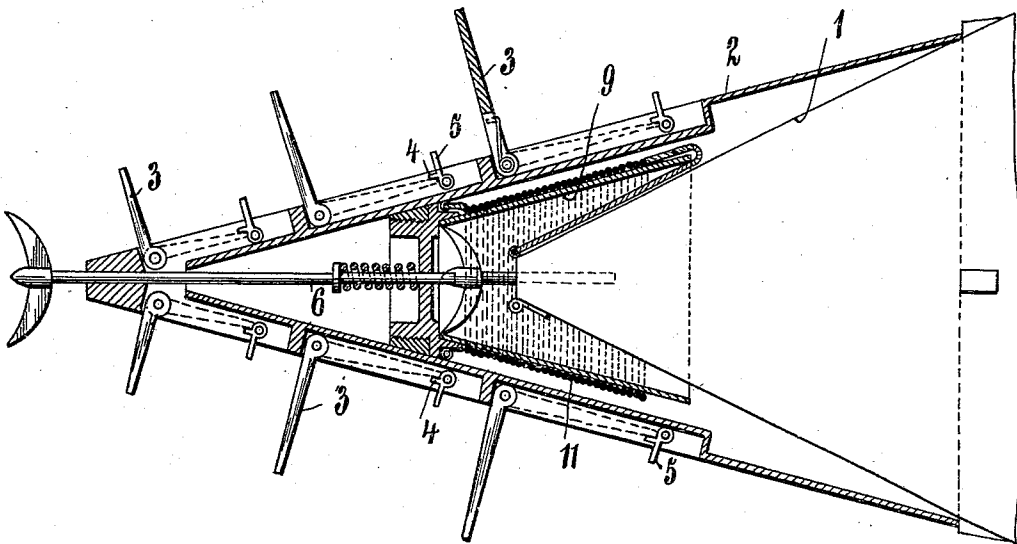
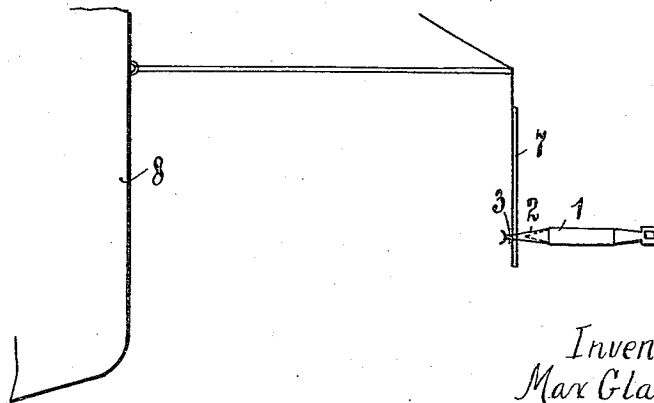


Fig.3



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3 SHEETS—SHEET 2.

Fig. 2.

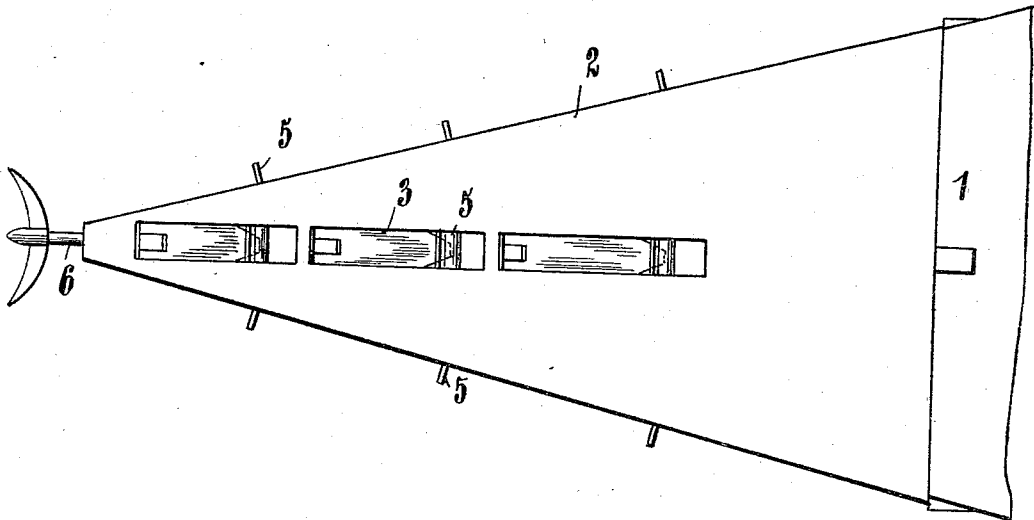
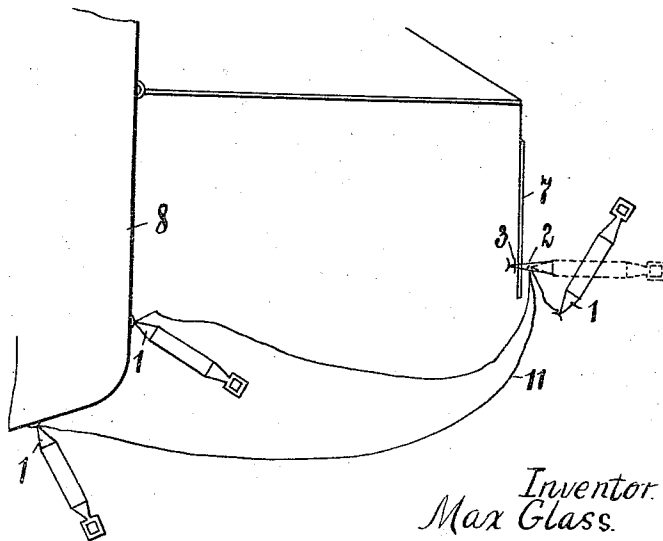


Fig. 4



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3 SHEETS—SHEET 3.

Fig.5.

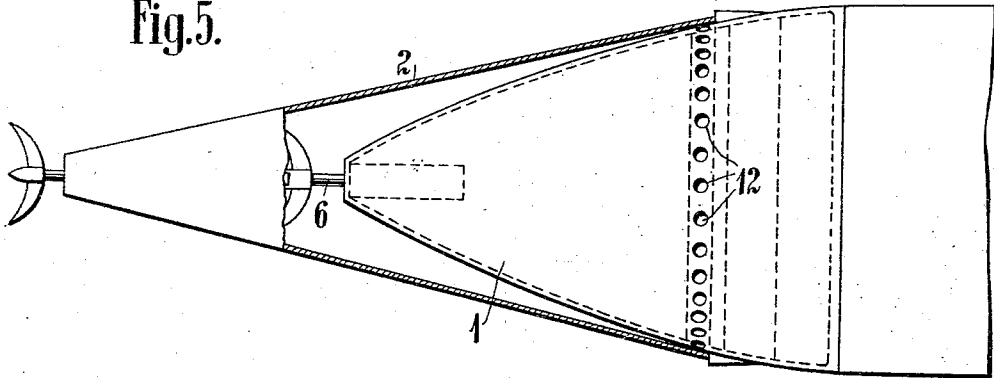


Fig.6.

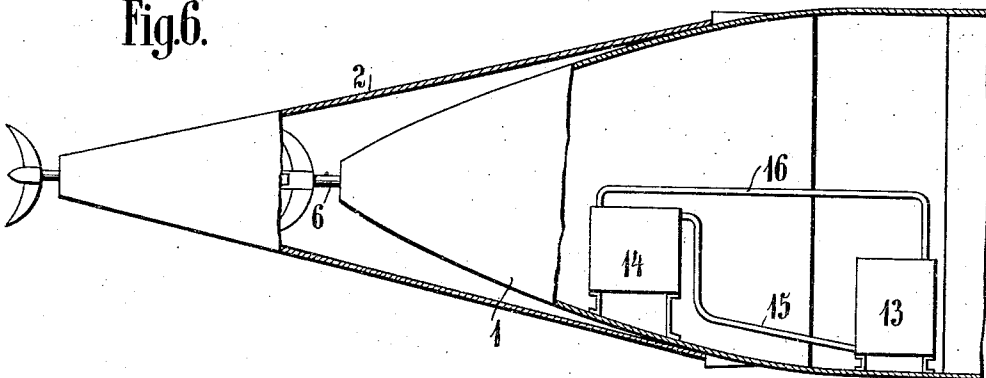
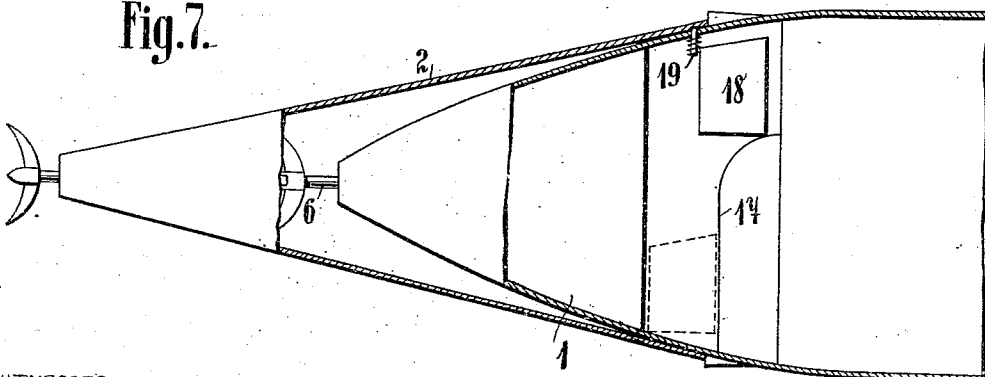


Fig.7.



WITNESSES

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957,670.

Specification of Letters Patent.

Patented May 10, 1910.

Application filed November 22, 1909. Serial No. 529,411.

To all whom it may concern:

Be it known that I, MAX GLASS, a subject of the Emperor of Austria-Hungary, and a resident of 176 Hadikgasse, Vienna, Austria-Hungary, have invented certain new and useful Improvements in Torpedoes; 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, reference being had to the accompanying drawings, and to the figures of reference marked thereon, which form a part of this specification.

This invention relates to a torpedo arranged in such manner that it cannot be stopped by protective devices, such as nets of ships, but after impacting the protective device passes under the same and is directed onto the ship's hull or the like and thus nevertheless becomes operative. To this end, the head of the torpedo is provided with a detachable cap or hood which, after the torpedo has struck the protective net, remains stuck therein, whereas the torpedo itself comes out of the cap and owing to a displacement of its center of gravity passes under the net. One form of the head of such a torpedo is represented by way of example in the accompanying drawings, wherein:

Figure 1 is a longitudinal section, and Fig. 2 an elevation showing the torpedo head, and Figs. 3 and 4 are diagrams illustrating the action of the torpedo. Figs. 5, 6 and 7 are broken elevations of torpedo heads showing various means for displacing the center of gravity.

Referring to the drawings, on the torpedo head 1 is placed a pointed cap or hood 2 forming the extension of the torpedo. In the outer face of this cap are provided rows of cavities or recesses, preferably arranged symmetrically, in which are arranged pivoted, spring pressed arms 3 which tend to stand at right angles to the face of the cap, but are generally held in said cavities in the cap in the position shown in dotted lines in Fig. 1 by the noses 4 of spring-pressed catches 5. Said catches 5 project only a little beyond the surface of the cap and consequently offer only inconsiderable resistance to the torpedo when it moves forward.

A rod 6 influenced longitudinally by a spring is mounted in the cap and forms an extension of the igniting device in the tor-

pedo head; this rod projects out of the point of the cap so that a torpedo provided with a cap according to this invention can act, when impacting directly on the hull of the ship, exactly like the torpedo alone. The force of said spring influencing the rod is so proportioned, however, that when the cap strikes weaker obstacles, such as protective nets, rod 6 is not able to influence the igniting device of the torpedo; on the other hand, the point of the torpedo will more or less penetrate the meshes or rings of the net, whereby the catches 5 are pressed back and the noses 4 release arms 3 so that they become erect and hold the cap in or at the net 7, as shown in Fig. 3.

The impact of the torpedo against the net causes an oscillation thereof and this loosens the cap from the body of the torpedo. Inasmuch as the latter is still driven forward by its motor while its head rests against the net, the rear end will tend to rise. This will open the holes 12 for example, (Fig. 5) which form a ring of apertures opening into the hollow point of the torpedo, normally closed by the cap 2. The water entering through the holes 12 increases the weight of the forward end and thus serves to depress the head of the torpedo. The same result may be accomplished by displacing a quantity of liquid within the torpedo. Thus in Fig. 6, for instance, two liquid receptacles 13 and 14 are arranged in the point of the torpedo at different levels and connected through tubes 15 and 16, the tube 15 leading from the upper portion of the tank 14 to the lower portion of the tank 13, while tube 16 connects the heads of the two tanks. Now, if the torpedo rises behind, as explained, on striking the net the liquid from the filled tank 13 passes through tube 16 into the empty tank 14, while the air displaced from tank 14 passes through 16 to the tank 13, and the equilibrium of the balanced torpedo is thus upset and the head depressed. Still another device for the same purpose is shown in Fig. 7. Here a weight 18 is held at the top of an incline by a spring pin 19 normally held in engagement with the weight 18 by the cap 2. Upon the loosening of the cap the spring pin is liberated and the weight falls forward down the incline thus shifting the center of gravity forward and depressing the point.

Inside the cap is wound around a sleeve 9 a cord 11 or the like of suitable length having

its one end attached to the sleeve, whereas its other end is fastened to the point of the torpedo. In consequence of the inclination toward the front given to it by the displacement of its center of gravity, the torpedo travels under the net in a straight line until the entire cord 11 has unwound from sleeve 9. At this moment the torpedo is moved upward owing to the cord and, as the driving motor of the torpedo continues to run, is directed onto the hull of the ship, as represented diagrammatically in Fig. 4. Should the torpedo not impact the hull of the ship for any reason, however, it is nevertheless kept within range of the ship, for which it forms a constant danger.

I claim:

1. A device for the purpose specified comprising a detachable cap adapted to fit over a torpedo head, said cap being provided with a line adapted to connect the same with the torpedo head, together with means in connection with said cap for engaging a torpedo net, and means for displacing the center of gravity of said torpedo upon striking said net whereby the same is tilted, as and for the purpose described.

2. A device for the purpose specified comprising a detachable cap adapted to fit over a torpedo head, said cap being provided with

a line adapted to connect the same with the torpedo head, together with means in connection with said cap for engaging a torpedo net, and means for displacing the center of gravity of said torpedo upon striking said net whereby the same is tilted, in combination with an igniting rod extending through said cap, substantially as described.

3. A device for the purpose specified comprising a detachable cap adapted to fit over a torpedo head, said cap being provided with a line adapted to connect the same with the torpedo head, together with means in connection with said cap for engaging a torpedo net, and means for displacing the center of gravity of said torpedo upon striking said net whereby the same is tilted, in combination with an igniting rod extending through said cap and resiliently connected to the igniting device so as to permit of the impact of the torpedo against a protection net without causing the explosion of the same, substantially as described.

In testimony whereof I have signed my name to this specification, in the presence of two subscribing witnesses.

MAX GLASS.

Witnesses:

RUDOLF ZIPSER,
AUGUST FUGGER.