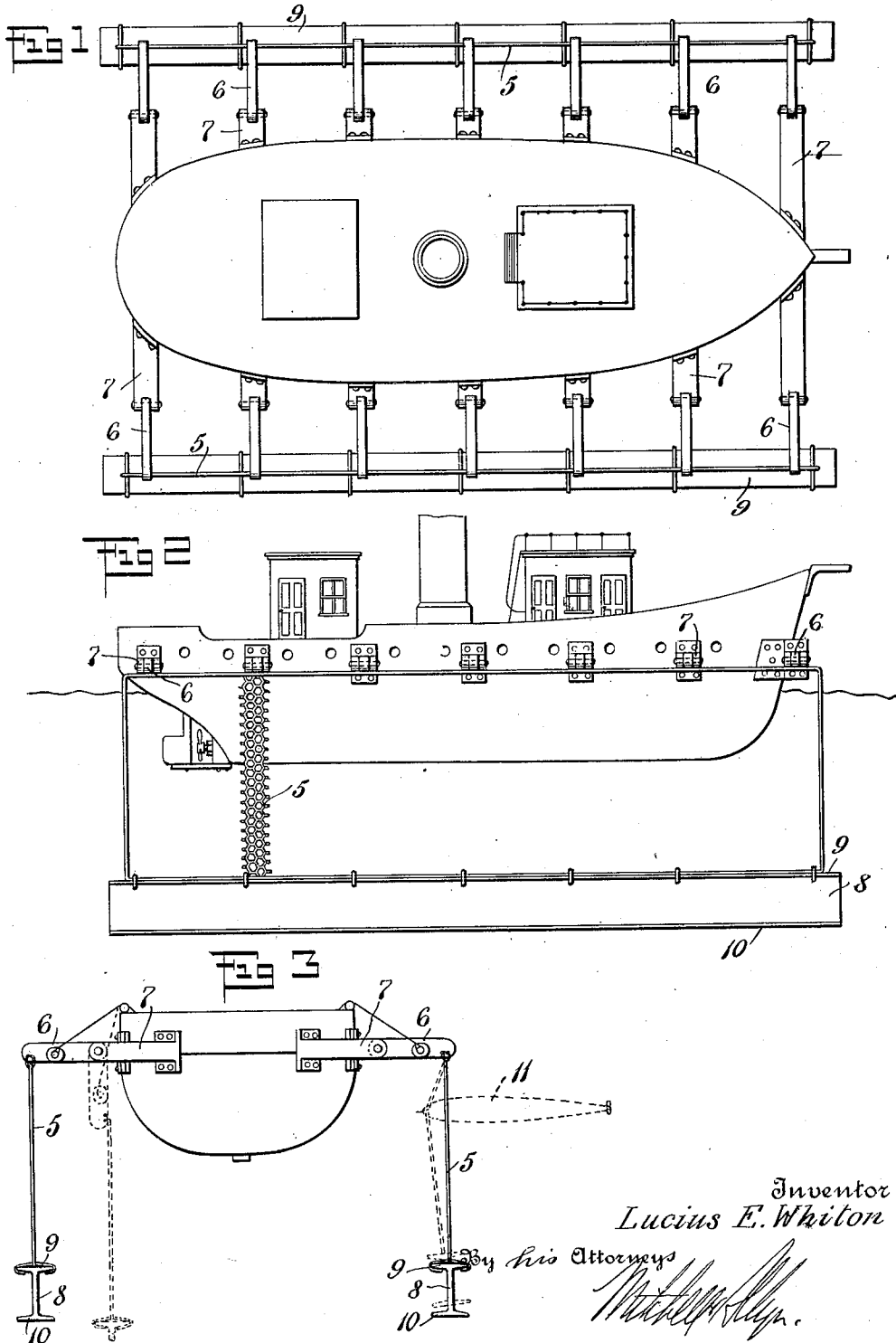


L. E. WHITON.
 APPARATUS FOR PROTECTING SHIPS AGAINST TORPEDO ATTACKS.
 APPLICATION FILED MAY 25, 1917.

1,369,587.

Patented Feb. 22, 1921.



Inventor
 Lucius E. Whiton

By his Attorneys

Matthew Allen

UNITED STATES PATENT OFFICE.

LUCIUS E. WHITON, OF NEW LONDON, CONNECTICUT.

APPARATUS FOR PROTECTING SHIPS AGAINST TORPEDO ATTACKS.

1,369,587.

Specification of Letters Patent.

Patented Feb. 22, 1921.

Application filed May 25, 1917. Serial No. 170,848.

To all whom it may concern:

Be it known that I, LUCIUS E. WHITON, a citizen of the United States of America, residing at New London, Connecticut, have invented a new and useful Apparatus for Protecting Ships Against Torpedo Attacks, of which the following is a specification.

The main object of my invention is to check and deflect the movement of the torpedo before it can reach the ship and preferably without exploding it.

For this purpose I employ large mesh nets preferably of yielding character suspended from the sides of the ship and provided with means for holding the net down and retarding any upward tendency such as would be occasioned by impact of a torpedo.

Figure 1, is a plan view of a ship with apparatus embodying the improvements of my invention.

Fig. 2, is a side view of the same, only a part of the net being shown.

Fig. 3, is an end view indicating in dotted lines the impact of the torpedo against one of the nets and on the opposite side, the other net lowered out of the way.

The net 5 is preferably of a more or less yielding material such as Manila rope with openings somewhat smaller than the cross section of standard torpedoes.

This net is suspended along its upper edge by a number of arms 6 hingedly supported by brackets 7 extending from the sides of the ship. The longitudinally extending member 8 is secured to the lower edge of the net and provided with flanges such as 9 and 10 extending laterally. This member 8 may conveniently be in the form of an I-beam of steel which is of standard form, readily procurable and not requiring any special fabrication for the purpose. This member 8 being heavy, normally exerts tension on the nets so as to maintain the nets in vertical planes parallel to the longitudinal axis of the ship where they will move edgewise in the water in the direction of the ships motion with the least impeding effect.

When a torpedo such as indicated at 11

strikes one of the nets the tendency is to bulge in the net as indicated in dotted lines in Fig. 3. This movement is greatly retarded by the weight of the member 8 and by the material resistance to vertical movement afforded by the laterally projecting flanges 9 and 10. The torpedo is thus brought to rest in a gradual manner by means of an elastic but increasing resistance. In case the torpedo is provided with a detonating device operated on the inertia principle, the torpedo used unless extremely sensitive ordinarily will by my invention be brought to rest so gradually that it would not explode, and by its engagement with the comparatively large meshes of the net would be deflected to the direction in which the ship and suspended net is moving, and harmlessly expend its propelling energy. If, on the other hand, the detonating device is provided with a firing pin, this should ordinarily pass into one of the openings of the net without exploding the torpedo. When caught sidewise in the meshes of the forward moving net, the lateral strain would impede the normal endwise action of the firing pin and afford additional means for deflecting the direction of the torpedo into harmless parallelism with that of the ship and net. If the torpedo should be exploded, it would be at a distance from the side of the ship and cause but little if any damage.

I claim:—

1. Apparatus for protecting a ship against torpedo attack, comprising a flexible non-metallic net at some distance from the side of the ship, a weight secured to the bottom of the net for holding the said net in a substantially vertical position, said weight having a longitudinally extending substantially horizontal flange for retarding upward movement thereof.

2. Apparatus for protecting a ship against torpedo attack, comprising a flexible net suspended from the side of a ship spaced apart therefrom and an I-beam suspended from said net for the purpose specified.

LUCIUS E. WHITON.