F. D. DIBBLE.

SHIP PROTECTING DEVICE.

APPLICATION FILED MAY 2, 1917.

1,310,326. Patented July 15, 1919.

Fig. 1.

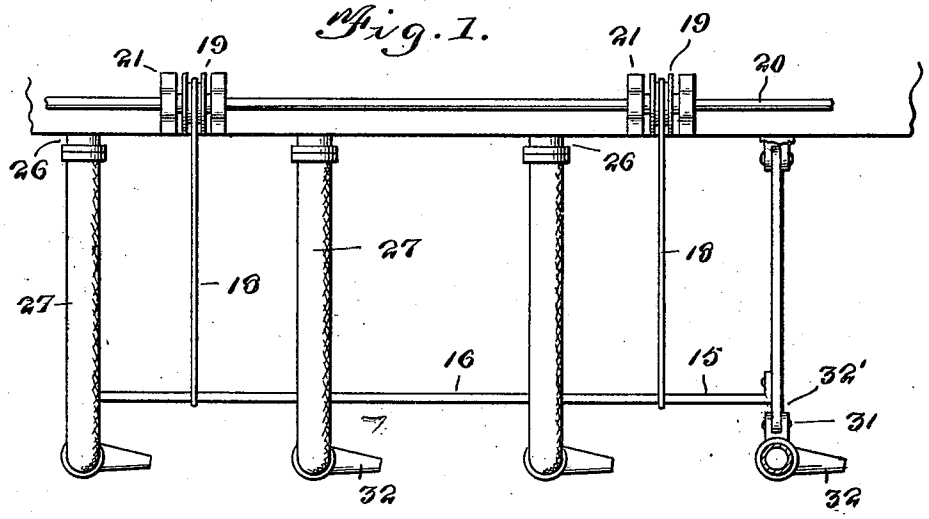


Fig. 2.

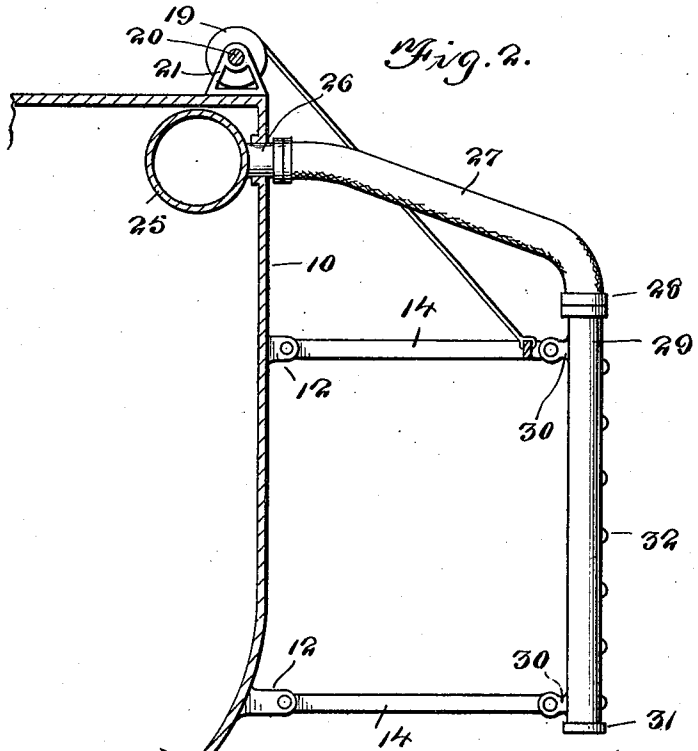
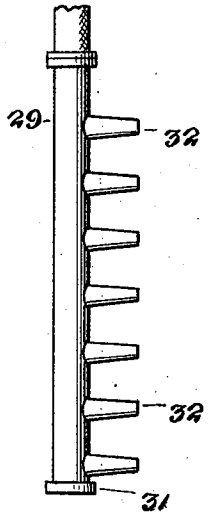


Fig. 3.



WITNESSES

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SHIP-PROTECTING DEVICE.

1,310,326. Specification of Letters Patent. Patented July 15, 1919.

Application filed May 2, 1917. Serial No. 165,975.

To all whom it may concern:

Be it known that I, FRANK D. DIBBLE, a citizen of the United States, residing at Muskogee, in the county of Muskogee and State of Oklahoma, have invented new and useful Improvements in Ship-Protecting Devices, of which the following is a specification.

This invention relates to a ship protecting device and the object is to provide means for deflecting a torpedo or floating mine by the discharge of a plurality of jets of water under a very high degree of pressure in a direction longitudinally of the side of the vessel and toward the stern thereof, thereby forming a sheet or curtain of water.

It is well known that water under a high degree of pressure constitutes a positive obstruction to the passage of any object which it may be attempted to force therethrough in a direction at an angle to the direction of discharge, when said object is traveling at a reasonable velocity and is not of excessive bulk. A jet of water such as employed in hydraulic mining, will deflect a ball discharged from a weapon of medium caliber, and other familiar examples will suggest themselves. In the present instance it is intended to provide such pressure that a torpedo will be deflected under all ordinary circumstances when not exploded upon impact with the jets, or the wall of water formed of these independent jets.

With the foregoing and other objects in view the invention consists in the novel construction, combination and arrangement of elements hereinafter described and claimed.

In the accompanying drawings forming part of this application,

Figure 1 is a top plan view of the apparatus as applied to the side of a vessel,

Fig. 2 is an end elevation of a guard unit,

Fig. 3 is a detail in elevation showing one of the vertically located pipes and the discharge nozzles connected therewith.

In the drawings, the side of a vessel to which the protecting device is to be applied is designated 10, and mounted thereon in suitable positions are a plurality of brackets 12 having forked portions within which are mounted arms 14 extending outwardly and constituting portions of a frame 15, certain of said arms oppositely located being connected by means of bars or rods 16.

In order to raise and lower the protecting apparatus, comprising a plurality of guard units each including a frame of the character indicated, I provide a plurality of cables 18 operating upon pulleys 19 carried by a shaft 20 driven from any suitable source of power. The bearings for this shaft are designated 21.

A main conduit for supplying water, under a high degree of pressure is shown at 25, and extending therefrom are a plurality of connections 26, to each of which is secured a flexible connecting member or pipe 27, which when the apparatus is in normal operative position, extends outwardly and downwardly and has connection at 28 with the vertically located pipe 27. This pipe last named carries a plurality of apertured brackets 30 having pivotal connection at 31 with one of the members 32′ of the frame above referred to.

The pipe 29 is closed at its lower end as indicated at 31 and is provided with a plurality of nozzles 32 extending toward the stern of the vessel, said nozzles being tapered as shown and providing for the discharge of water in a plurality of jets forming substantially a curtain or wall of water with which a torpedo or floating mine at or near the surface of the water will come into contact. The torpedo will be exploded by the force of the impact or if not exploded will be deflected.

I do not wish to limit myself to the manner of mounting the water-discharge elements of the apparatus, but may make such changes in that portion of the construction as may be desirable, within the scope of the appended claims.

What is claimed is:

1. In a device of the class described, means for supplying water under pressure, a frame adjustably mounted at the side of a vessel, and means carried by said frame and having connection with said supply for discharging a stream of water toward the stern of the vessel, in a direction substantially parallel with the sides thereof.

2. In a device of the class described, means for supplying water under pressure, vertically mounted pipes adapted to be carried at the side of the vessel and having connection with said supply, brackets carried by said pipes, arms pivotally connecting the brackets with the side of the vessel and means for raising the arms and means for discharging

water from said vertically mounted means in a direction toward the stern of the vessel.

3. In a device of the class described, means for supplying water under pressure, a vertically mounted pipe, adjustable means for supporting the same in a position spaced from the side of a vessel, means for discharging water from said pipe, and flexible means connected therewith and with said supply.

4. In a device of the class described, means for supplying water under pressure, a plurality of supporting devices adapted to be carried by the side of the vessel, a frame pivotally mounted therein, a plurality of vertically mounted tubular members carried by said frame, means for discharging water from each of said members to form substantially a wall of water, and flexible means connecting said tubular members with said supply.

5. The method of protecting a vessel from torpedoes and the like consisting in creating a wall of rearwardly flowing liquid alongside the vessel.

6. Apparatus for protecting a vessel from torpedoes and the like including means for creating a wall of rearwardly flowing liquid alongside the vessel.

7. In an apparatus of the class described, a supporting device spaced from the side of a vessel, and means carried thereby for discharging a stream of water in a direction toward the stern of the vessel.

In testimony whereof I affix my signature.

FRANK D. DIBBLE.

Copies of this patent may be obtained for five cents each, by addressing the "Commissioner of Patents, Washington, D. C."