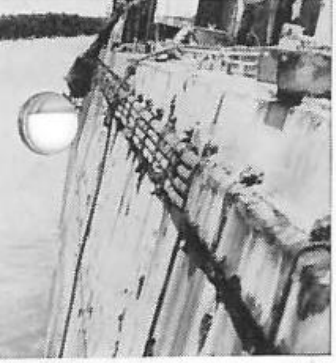

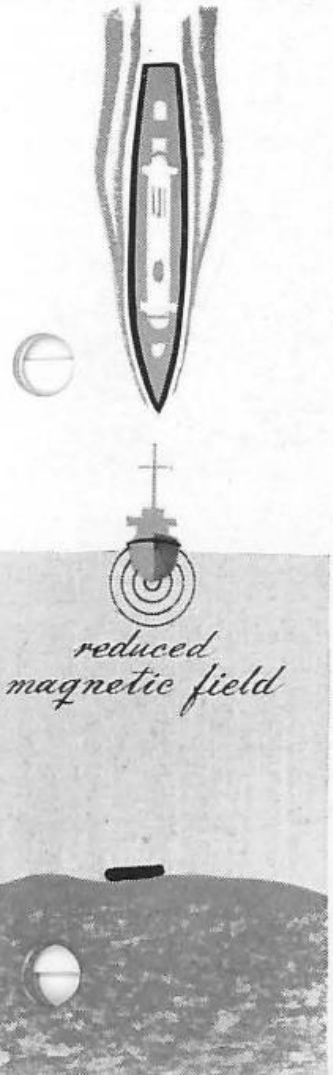

DEGAUSSING vs. MAGNETIC MINES

Ships may be protected against some magnetic mines by a process known as "degaussing." A magnetic mine is actuated by the magnetic field of a ship, and if this field can be sufficently neutralized, the vessel may pass over the mine without actuating it. Degaussing protection is effected by application of one of the basic laws of physics. If an electrical current is passed through a wire, a magnetic field is set up around the wire. British engineers, faced with the problem of the German magnetic mine, soon decided upon the use of this principle as a means of protecting ships. They wrapped horizontal coils of wire completely around the ships at about main deck level. Strong electrical currents passing through this wire loop set up a magnetic field which is in opposite direction to the ship's field. The total magnetic influence of the ship is thereby reduced. The wire loops are given the name of "degaussing coils."

The picture shown is of a Japanese warship whose degaussing coils may be clearly seen, girdling the hulls at about main deck level. More modern installations are designed with the coils placed inside the hull of the ship, where they are protected against damage due to ship contact or sea action. This redesign has also made it possible to place the coils at approximately water level where they are more effective.