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England's new super-dreadnought, H. M. S. Hood, is the biggest war-ship afloat. torpedo "blisters" on her sides. These blisters, which bulge out mysteriously at

## The Railway Fire-Engine

A FIRE in the woods, ten miles from the nearest town—sounds rather bad, doesn't it? And it would have been but for the new fire-fighting railway car. This fire-fighter is a reclaimed oil-tank with a capacity for ten thousand gallons, now used for water instead of oil. It is equipped with two duplex pumps and a tool-box that holds a complete outfit of nozzles, wrenches, tools, and hose.

Steam for running the pumps is furnished by the locomotive, and is fed through a flexible pipe.



A forest fire near the railroad tracks? This converted oil-tank will race to the scene. It is filled with water now and has two powerful pumps

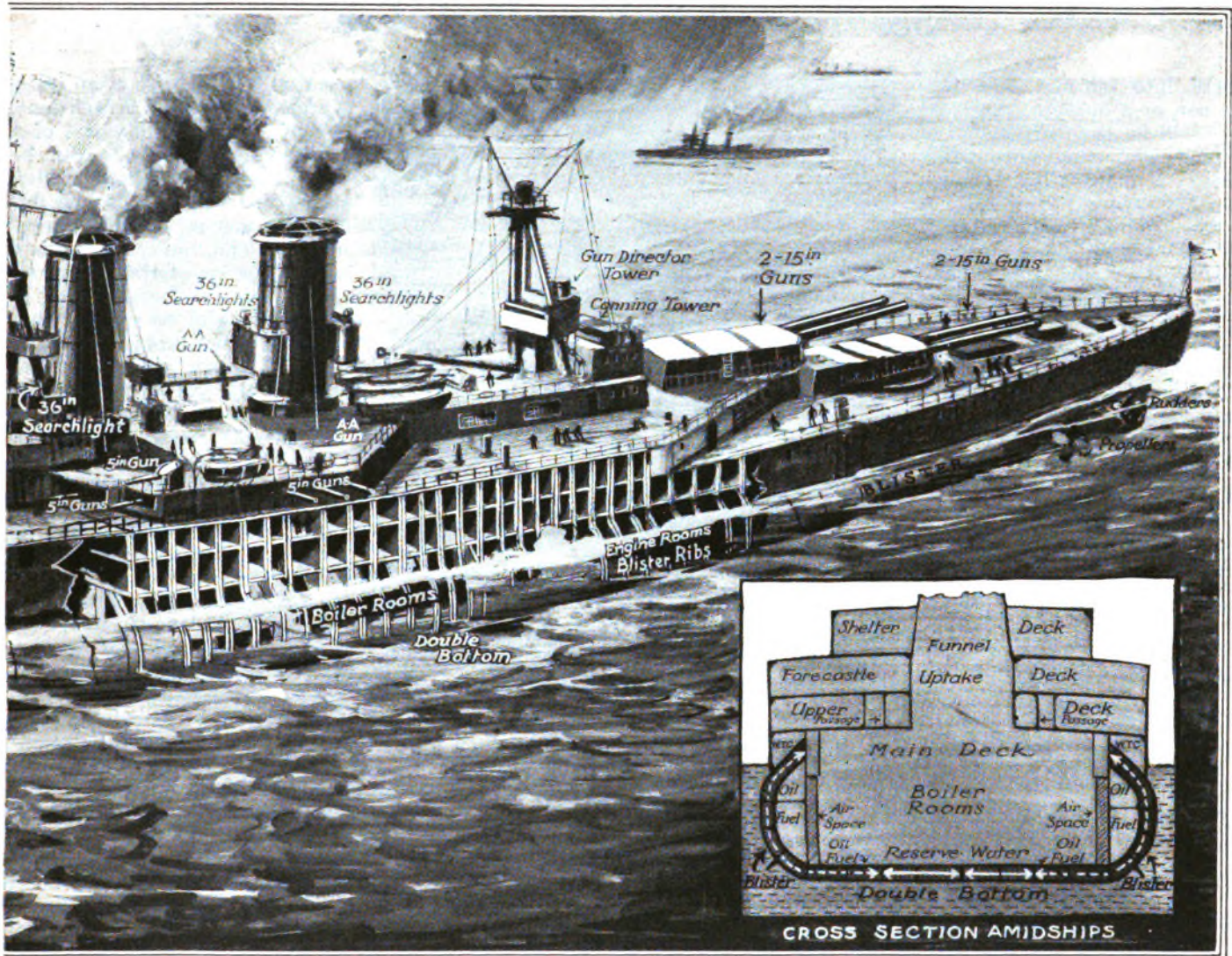
## The Greatest Sea-

ENGLAND'S new super-dreadnought, H. M. S. Hood, which cost \$30,000,000, is the result of lessons learned in the recent war. She has greater displacement than any of her older sisters, and she is so beamy that locks and many docks will have to be widened to accommodate her. Both of these features are due to increased protection both above and below water. The battle of Jutland proved this necessary, even at some sacrifice in speed.

Below-water protection is provided for by "blistering."

The "blister" is a mysterious bulge at the sides and bottom of a ship to protect her from torpedo wounds. Some of England's battleships were thus "blistered" during the war.

In spite of the Hood's immense size, a very large part of the hull is covered with heavy armor. On the turret roofs the armor is of double thickness to allow for the effect of plunging fire, which proved so destructive in the first North Sea engagement. Everything has been done to secure the utmost strength and resisting power. In fact, the Hood is better equipped to resist attack from any weapon known to naval science than any war-ship afloat. The Hood could hardly be sunk by torpedoes, according to Sir Eustace



She is 70 feet longer than the *Mauretania*. The *Hood* is equipped with anti-bottom and sides of ships, were used successfully on ships during the war

## Fighter of Them All

Tennyson-d'Eyncourt, Director of Naval Construction at the British Admiralty.

The *Hood* carries eight fifteen-inch guns, mounted in such a manner as to permit them to be elevated through an angle of thirty degrees, thus increasing their range to forty thousand yards. The Germans were the first to resort to the elevation of guns so as to increase their range—this before the war. There are several five-inch guns and a few anti-aircraft guns.

An elaborate system of fire control known as director firing has been installed. It includes the main director station on the tripod foremast and a long-base range-finder in the gunnery control. No official details of the torpedo armament are available, but the present tendency is to revert to the above-water position for torpedo-tubes.

The *Hood* is 860 feet over all.

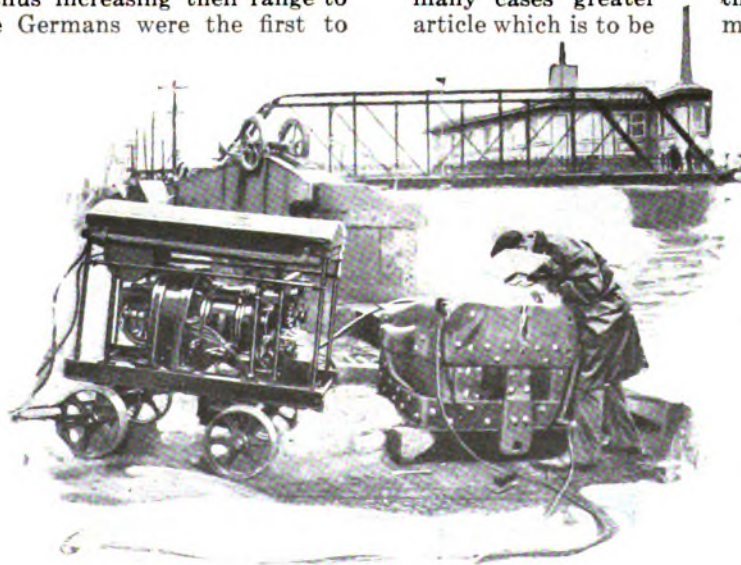
## A Traveling Welder

**B**ROKEN metal is best mended by welding. This, of course, means bringing the broken edges to a white heat, so that, when joined together with fresh fusible metal, they re-unite with a strength equal to, or in many cases greater than, the metal of the tool or article which is to be mended by the traveling welder.

Until recently it has been necessary to take the broken parts to the welder. But now portable electric welders have been perfected.

The illustration shows one of them in action. It is being used to repair a broken dredge bucket of a machine operating on a river.

In the case of railroad locomotives, such a welder is of great value. It can be used directly on the locomotive for repairing the broken section, eliminating the necessity of removing the parts to be repaired and resulting in a saving of time.



Indifferent to rain, the welder repairs a broken dredge. He is using his portable electrical welding machine