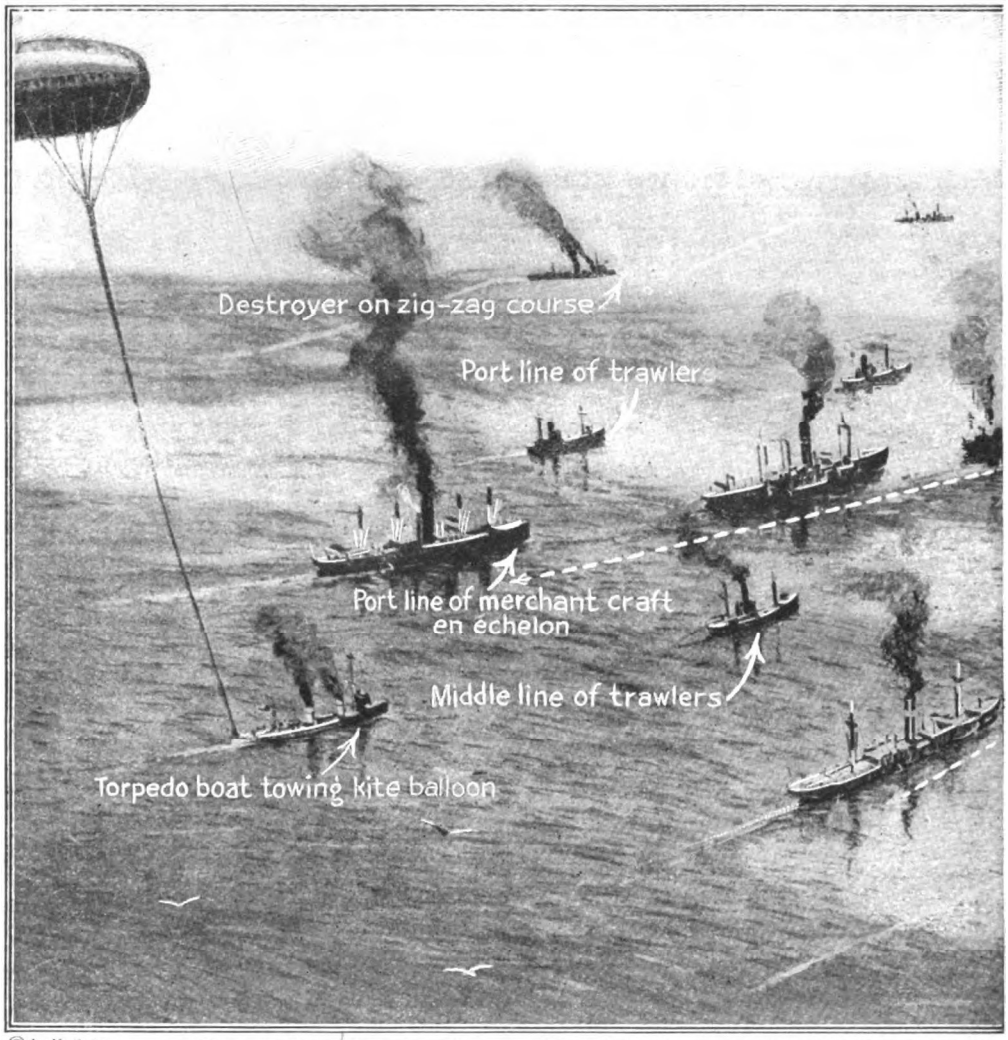
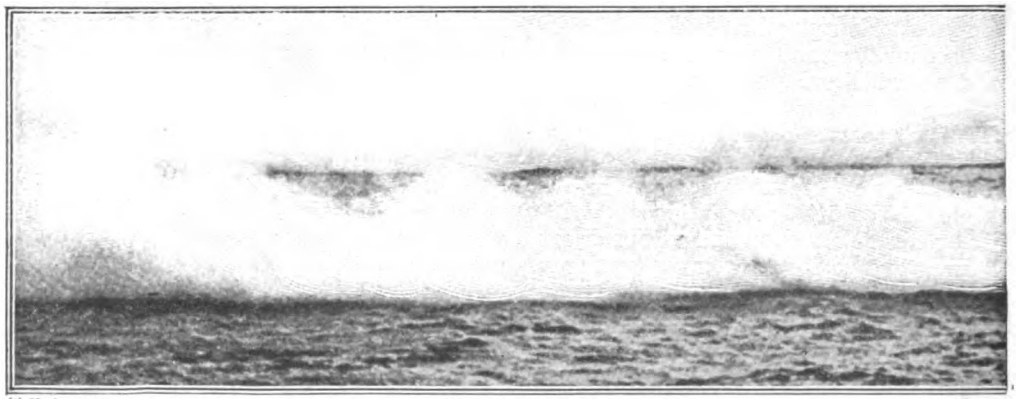
Undersea Wolves Are Lurking for the Attack,

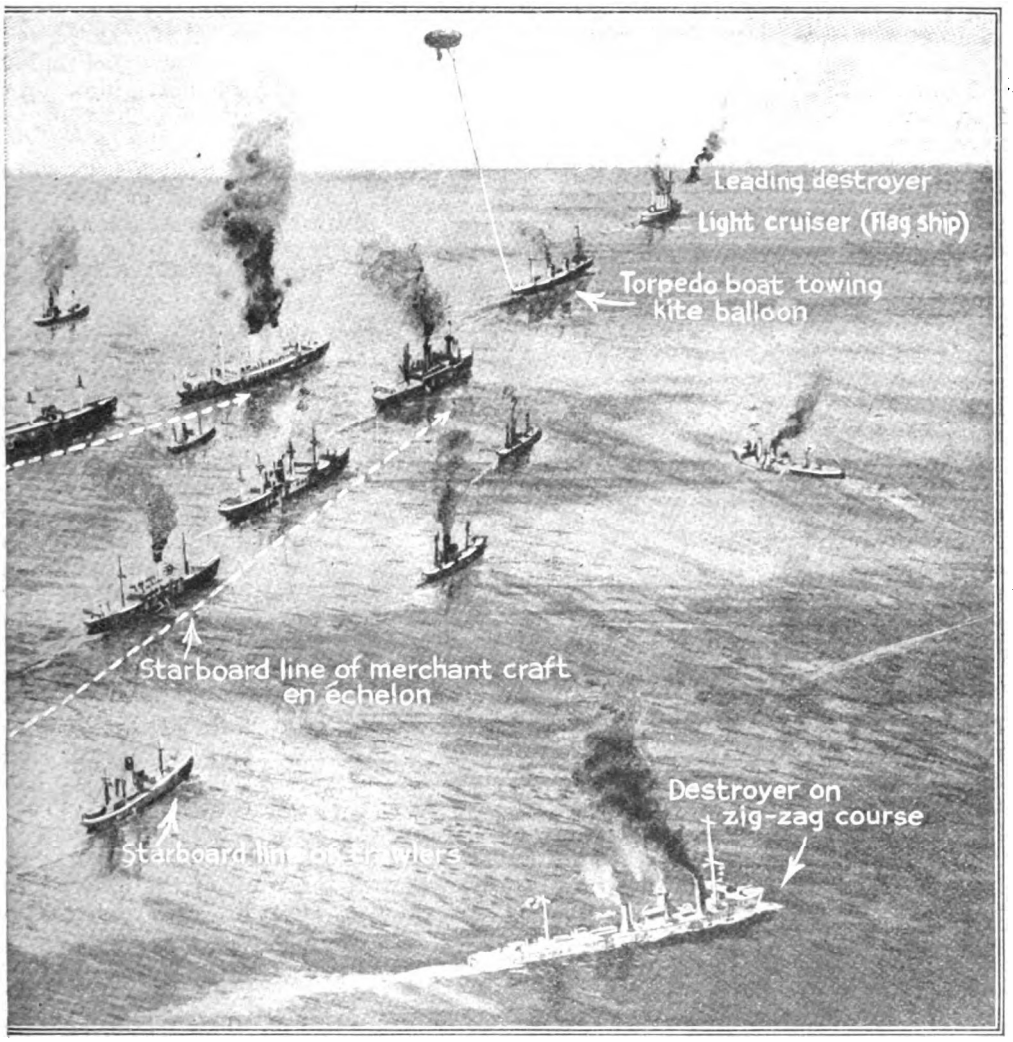


New problems in convoying merchant ships were presented by the submarine; not only is it necessary to protect the flanks of the line and keep guard ahead and astern, but the ships must steam in such order in relation to their protectors

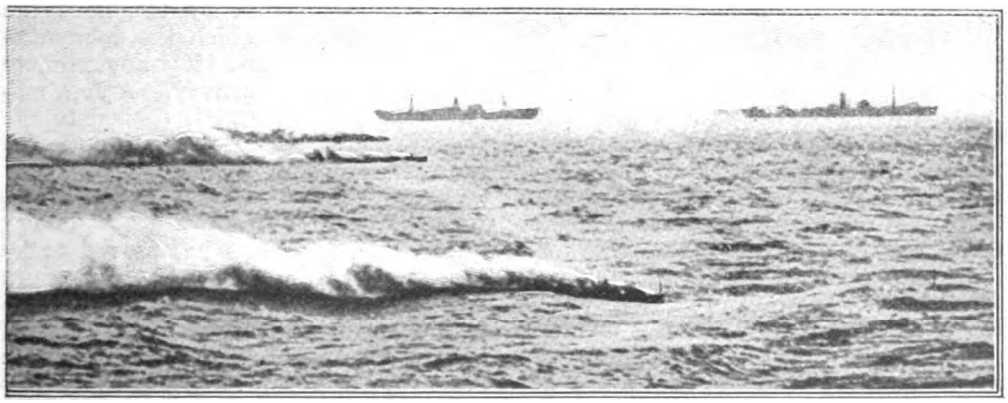


Smoke-screens have been found highly efficacious as a protective measure against submarines. The point of observation of the submarine is necessarily low, so

But the Dogs of War Are Ready for Them



that it will be impossible for a U-boat to use one of the merchantmen as a shield while it attacks. It would be difficult for a submarine to break through this screen of trawlers without being caught and sent to Davy Jones's locker



that even a low bank of smoke or fog shuts off the view from the submarine. Unfortunately the screen cannot be used when the wind blows in a contrary direction

guard of the convoy consists of another torpedo boat towing a kite balloon.

These kite balloons are, as a matter of fact, one of the most important if not the most important feature of the convoy system. They are the far-seeing eyes of the sea caravan. From the deck of a ship it is extremely difficult to detect the presence of a submarine submerged so that only the periscope is above the surface. But from a balloon, towed at a height of five hundred to fifteen hundred feet, it is possible, not only to survey a much larger area, but to see submarines which are submerged or resting upon the bottom of the sea at a depth of fifty or sixty feet.

Captive balloons were first used during our Civil War. In modern times the Japanese employed them with good effect in the siege of Port Arthur. The kite balloons used nowadays are of an approximately cylindrical form, rigged much like an ordinary kite. The harness, to which the towing cable is attached, is so arranged that the balloon cylinder always maintains an inclined position in the teeth of the wind. Suspended from the balloon is a basket which usually contains one or two observers and the necessary instruments, maps, etc. The observer is in telephonic connection with the ship towing him, and the observations reported by him are communicated to the flagship and the rest of the convoy. To keep the balloon well in the wind and to steady it, a tail of five or six small parachutes is attached to the lower end of the balloon. These balloons may be used in a moderate breeze, but cannot safely be "flown" in a wind of more than forty miles an hour. Only under the most favorable conditions can these balloons be towed at a height of 1,500 feet or more.

From his place in the basket, perhaps a thousand feet above the ocean, the observer commands a most wonderful view of the watery expanse. As far as the eye can reach the restless, ever changing ocean spreads out far beneath him. But he is not up there to admire the view, to study the picturesque beauty of the sea in its varying moods. His eye is glued to the powerful telescope or binocular with which he scans the wide expanse around him for any sign of danger. When the air is clear and the wind not too strong his task is comparatively pleasant. But, when the wind reaches the forty-mile limit, when it comes in gusts and is accompanied, perchance, by a heavy downpour of rain, the observer's position becomes decidedly uncomfortable. The basket swings most distressingly, making the taking of observations extremely difficult and the driving rain adds to the discomfort of the observer.

High up in the air, towed by a ship, they watch for submarines

The physical and mental strain connected with the work of the observer is tremendous. He realizes his responsibilities and concentrates every faculty upon the task entrusted to him. The sight of a periscope or other evidence of the presence of a hostile submarine comes to him almost like a welcome relief from the terrific tension of the incessant search. After a glance at the compass before him the observer reports by telephone the exact direction in which the submarine craft was seen and its approximate distance from the convoy. A few moments later the report is flashed to the flagship and the destroyers and the necessary orders are given.

The Slow Ships Hold Back the Fleet

The convoy system has proved to be the most efficient protective measure against German submarines evolved so far, but it also has its disadvantages. Transports and heavily loaded freighters are necessarily slow. When such slow going ships form part of the convoy, the

other, faster ships must adapt their speed to that of the slower craft, as the formation of the convoy must be maintained intact. This makes the progress of a convoy often extremely slow. When the system was first introduced fast ships, weary of the slow progress of the convoy, would break out of the line at the first opportunity and perhaps fall a prey to a prowling submarine. Since then skippers have become cautious. They have learned their lesson.

Unnecessarily to retard the progress of a ship capable of making greater speed is a waste of shipping facilities the Allies can ill afford at the present time. It would be a good plan to form convoys, whenever possible, of ships of approximately the same speed.

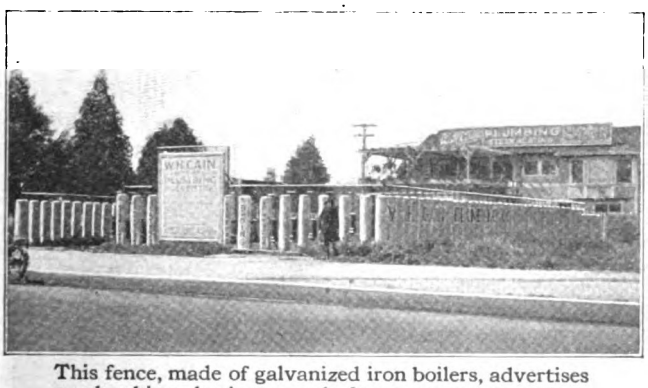
More recently the convoy system has been made safer by the addition of the smoke screen.

The skeleton of the windmill has a dress that Eve might have envied

Fenced In by Steam Boilers, He Has Reserve Stock and an Advertisement

IF you ever happen to walk down a certain street in Los Angeles, don't question the veracity of your eyesight when the craziest fence imaginable looms out before your astonished gaze. It looks as though a plumber had built a fence while in a nightmare. As a matter of fact, it does advertise a plumbing business, and it consists of galvanized iron boilers and gas hot-water heaters placed alternately and connected by regular pipe connections.

When the owner constructed this odd fence his competitors said that he must be crazy. However, he has had an excellent advertisement, and now, since plumbing fixtures are difficult to get and very costly, he is able to execute orders by drawing on this reserve stock, and is enjoying the last laugh at his rivals' lack of foresight.



This fence, made of galvanized iron boilers, advertises a plumbing business and forms a reserve stock

Hiding the Nakedness of a Windmill

THE highly decorative effect of ivy growing against the walls of castles and other buildings was discovered some centuries ago, but it remained for a very modern farmer to turn the climbing habit of the wild grape to good account. The photograph tells the story. The windmill was quickly turned from a bare framework, suggesting in its ugliness the inartistic but highly useful framework of a skyscraper, to a bower of beauty. As a matter of fact, the farmer used both the wild grape and the ivy (not the kind that poisons), and in two years had the framework well covered. And, as the owner said: "It didn't cost much." Moreover, the vine-clad windmill is a thing of beauty if not a joy forever.