

Concrete Ships

CONCRETE SHIPS may solve the Allied tonnage problem. Naval architects and marine engineers scoffed at the very idea when it was first mentioned as one way of foiling the Kaiser's submarines. Despite this scoffing, one San Francisco concern has had the courage to begin the construction of a 5,000-ton (dead weight) ferro-concrete ship.

Out there in the West, under the shadows of Mount Tamalpais, this great hull of sand, gravel, cement and steel rods is beginning to take form, and some of the scoffers are wondering if they are not mistaken after all. If this big ferro-concrete ship is launched and proves seaworthy the tonnage question will come mighty near being solved.

This sort of ship can be built with ordinary unskilled labor. Practically none of the materials or skilled labor used in building steel or wooden ships are required. Shipyards are not required, either. In fact, in the language of the poolroom, concrete ships will be "velvet" from the standpoint of material, labor and existing shipyards.

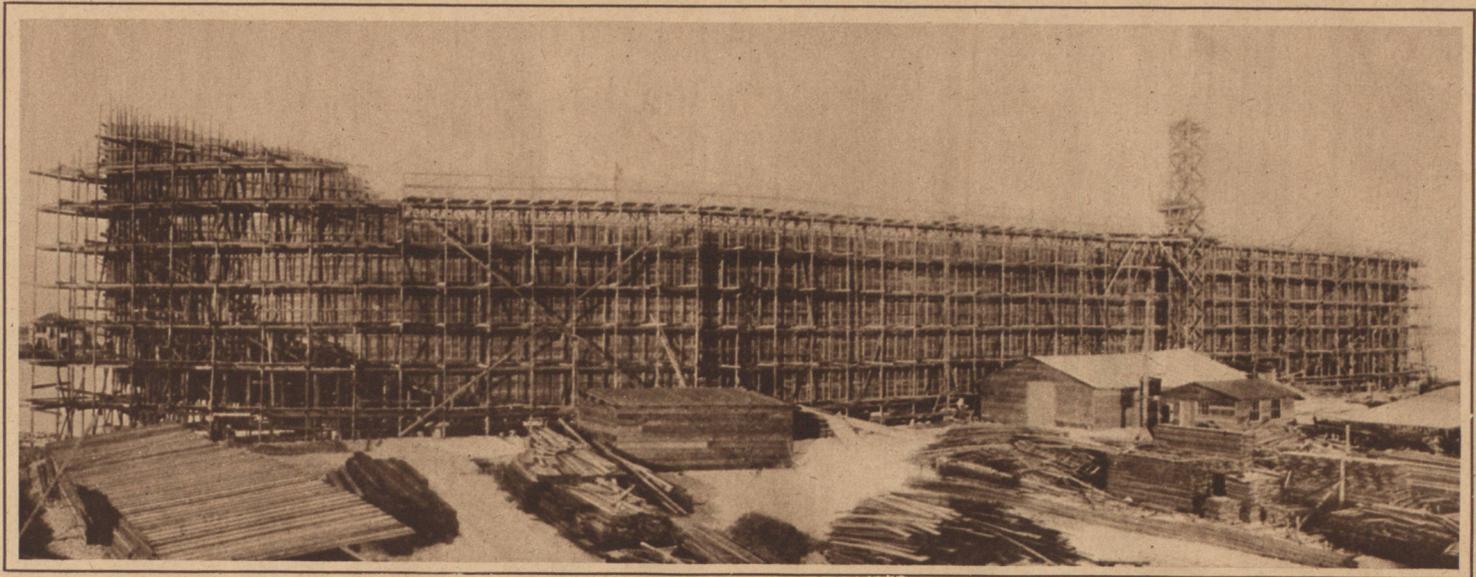
The San Francisco ship of stone will not be the first of its kind by any means. The first vessel constructed of ferro-concrete was built in 1849 by M. Lombot, in France. This was quite small. The next was a Dutch sloop, the De Zeemeuv, built in Holland in 1887, and she is still in excellent condition.

A number of serious efforts to build concrete ships have been made under the direction of the Italian navy, and some of these boats are doing service now in the harbor of Spezia. German builders also have constructed some small ferro-concrete ships, mostly for river freighting.

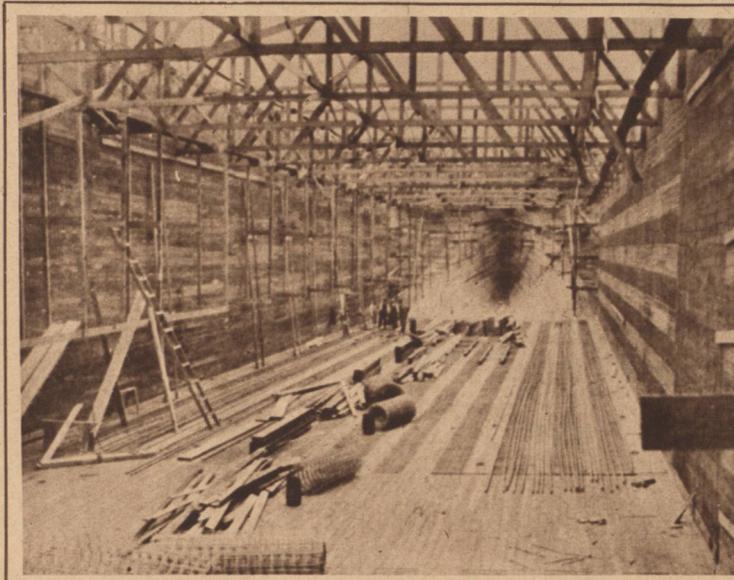
The best effort of all, however, was made in Norway, where shipbuilders named Fougner, at Moss, Norway, have constructed about twenty vessels. One of these, capable of carrying 200 tons, has actually navigated in the North Sea. The Fougners, incidentally, are now in New York and prepared to construct ships of 3,500 tons dead weight.

One of the big advantages of the ferro-concrete ships is that they can be completed in about half the time necessary for steel or wooden ships.

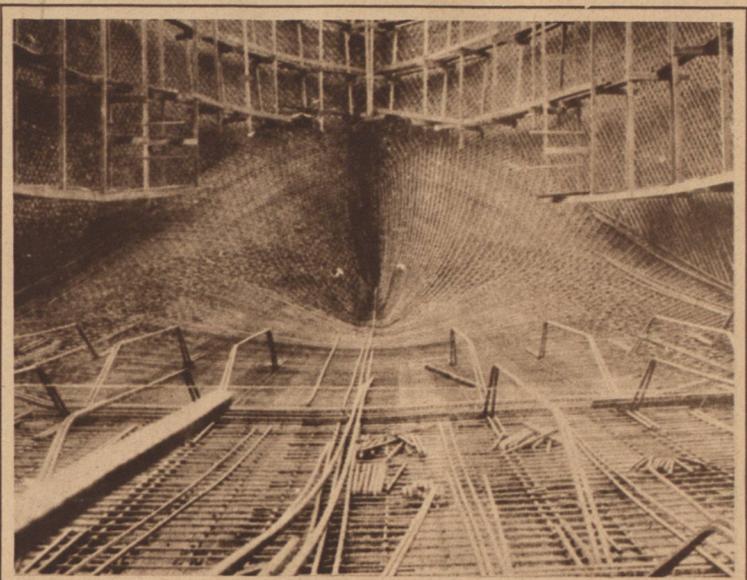
Photographs from The Engineering News-Record.



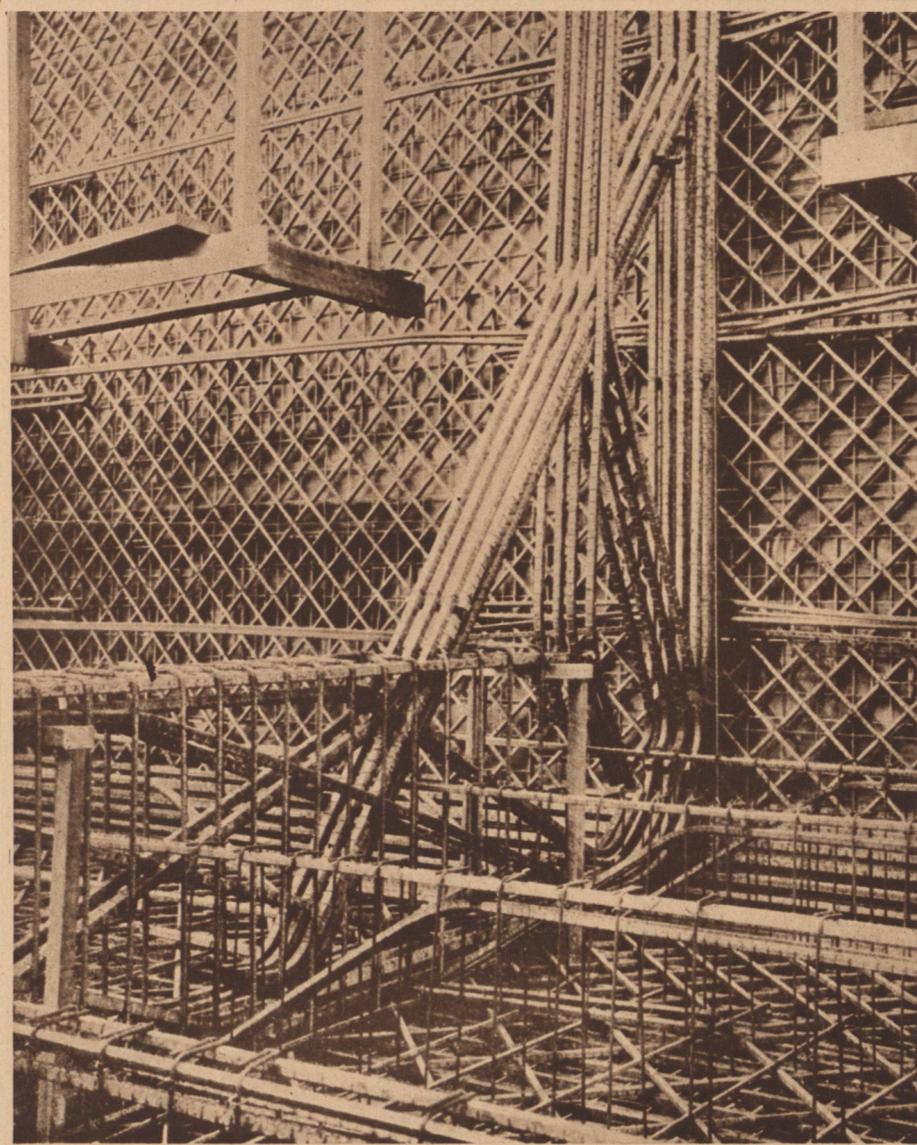
General view of 5,000-ton concrete vessel of San Francisco Shipbuilding Company—400,000 feet of lumber in form work and scaffolding



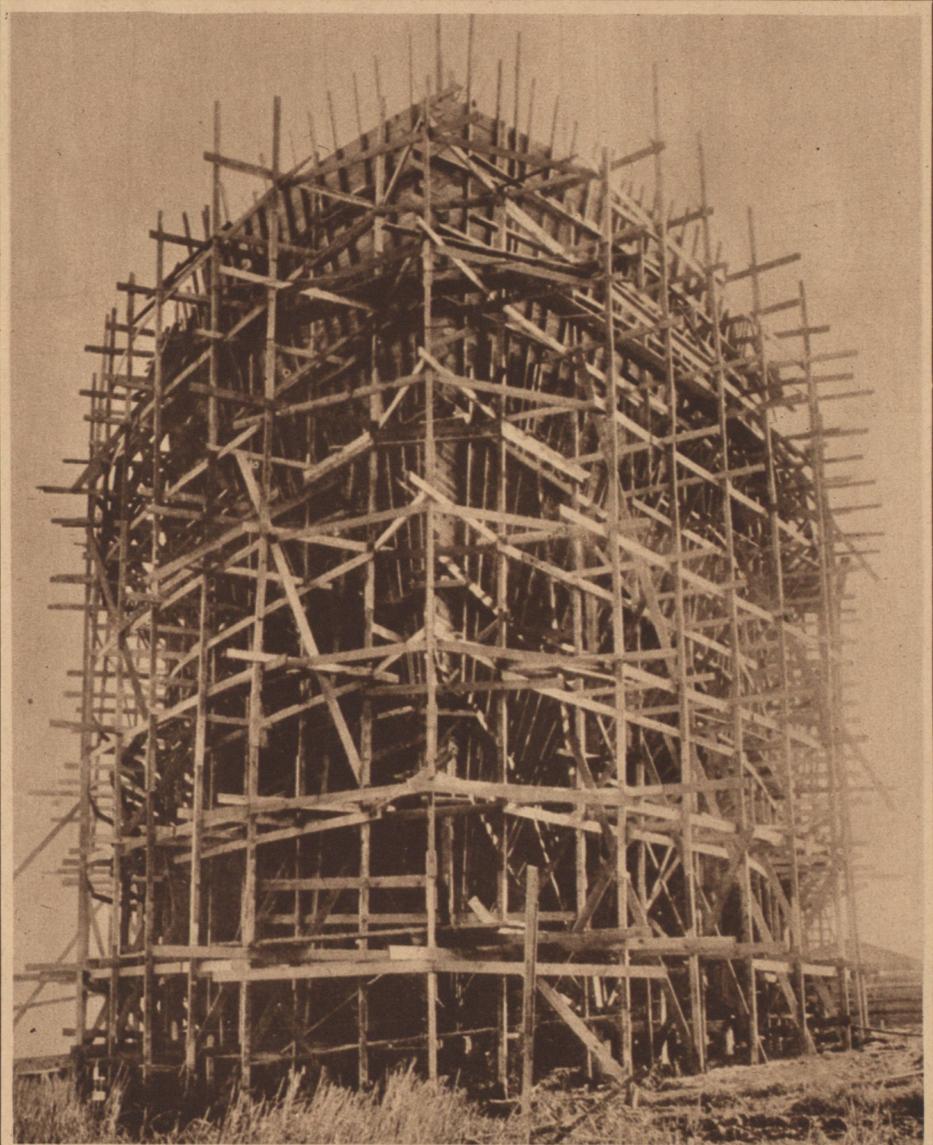
Starting to lay the bottom steel.



Shell reinforcement of prow in place.



Steel reinforcement in one of the strong frames.



Prow view of ship gives idea of vessel's size.