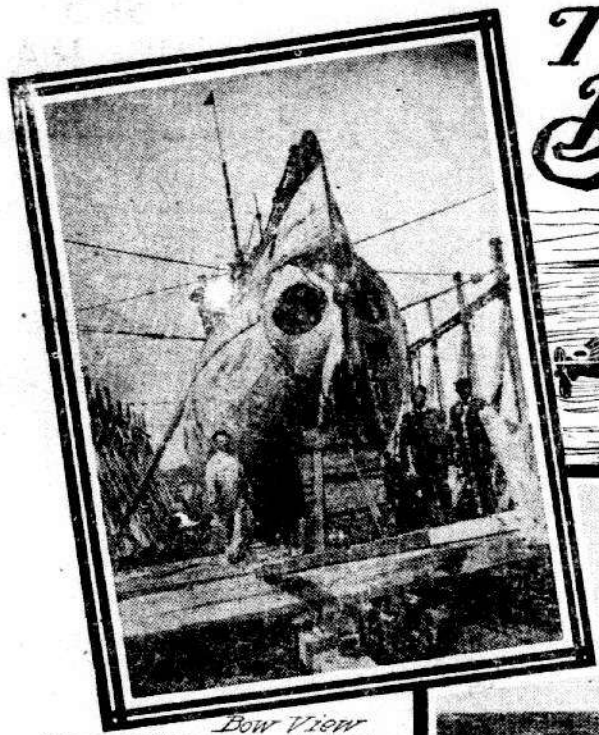
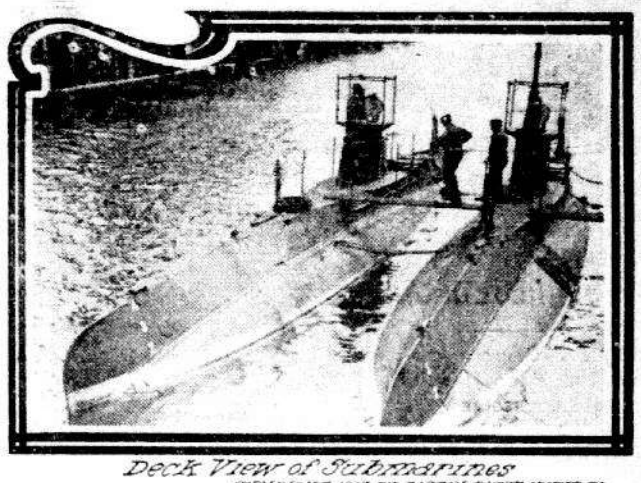
THE UNDER WATER BATTLESHIPS

By Thomas Wilson



Bow View Showing Torpedo Tubes

Testing the Submarine Emergency Jacket.



Deck View of Submarines

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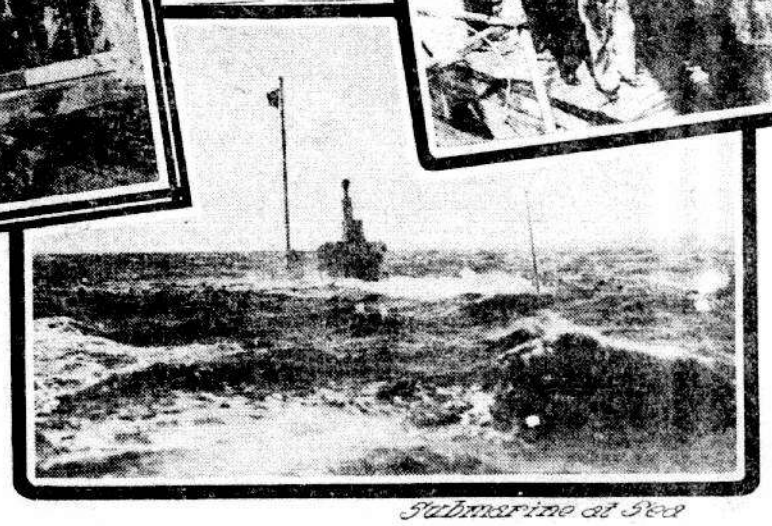


Submarine at Sea

ALTHOUGH slower, perhaps, than some other nations to adopt the submarine vessel as an adjunct to its naval force, the United States government has at last awakened to the necessity for ample provision for vessels of the submerged type, and now has in course of construction a fleet of underwater craft that will have no superiors afloat.

There has been a great tendency on the part of writers to declare that the submarine will eventually replace the larger and more powerful battleships and to decry the building of these immense floating fortresses on the ground that they are becoming more and more costly, and yet may be readily sent to the bottom in a few minutes by one small submarine boat.

Farsighted naval officers, however, do not look upon the matter from that point of view. While they consider the submarine boat to have been developed to a remarkable degree of efficiency, yet they feel that the work of the underwater fighter will be confined to coast defense work, and that the arm that will win the victories for the nation will be the gigantic, heavily armed battleship, fighting far from land.

The submarine is a solution of the problem of securing mobile coast defense at a comparatively low cost and in short time. Instead of being restricted to night attacks in the manner of surface torpedo boats, the submarine can go on her deadly mission in daytime, and, unobserved, approach her $10,000,000 prey—the modern battleship.

With her ample, demonstrated ability to protect our coast and harbors by making blockades by an enemy's fleet impossible, submarine flotillas will increase the value and importance of our battleship and cruiser squadrons, enabling them to assume an offensive role—that of steaming forth into other seas to meet and cope with the enemy, rather than constituting a "home guard" on our own coast. The need of so freeing our battleships was illustrated during the Spanish war.

Admiral Dewey, after witnessing the performance of the original submarine boat exhibited to the navy, said, on April 23, 1900, that from what he had seen of the boat's performance he was convinced that had the Spaniards had two such boats at Manila he could never have held it with his squadron. He said, furthermore, that, in his opinion, with two such boats in Galveston harbor all the navies of the world could not blockade that place.

The admiral thereupon recommended the building of 20 submarine boats. Wonderful as the boat was the admiral witnessed, it was but a crude forerunner of the improved type of the submarine of the present day.

Since the trials of the early day submarine, before Admiral Dewey, some of the most eminent officers of the navy have endorsed the submarines and the official trials of the boats built for the government, particularly that of the Octopus, have shown results exceeding the claims to this type of vessel.

The new French submarines are called "submarine cruisers" and are said to be of 500 tons displacement. Our latest ones have a displacement when submerged of nearly 400 tons and carry large torpedo tubes. They are provided with officers' quarters and have a radius of action on the surface of some 1,400 miles. The official trial of our navy submarine, the Viper, demonstrated clearly that the sphere of usefulness of these boats is not restricted to sheltered harbors. This boat remained at sea, self-sustaining, for four days.

In the opinion of some of our leading naval experts, the great trouble with our navy today is that it is "topheavy." We have a great number of battleships, but our torpedo service—destroyers and torpedo boats (surface and submarine)—compare unfavorably with that of even fourth rate powers, and it is time, they say, that the navy was balanced up.

These indispensable small craft are inexpensive, both as to original cost and maintenance. Thus the latest type of battleship—the American "Dreadnought"—cost $10,500,000 to build and $1,000,000 a year to maintain, whereas our largest and most improved submarine costs less than $400,000 and the expense of maintenance is negligible.

Great Britain, the nation having the greatest number of battleships, nevertheless has a most efficient submarine navy. Having in 1900 become satisfied that the submarine torpedo boat had come to stay, the British admiralty began to build these boats, has each succeeding year built a group of homogeneous design and now has on hand or building about 60 submarines of the same American type which has been adopted in our navy. Japan is also a great believer in submarines and has built and is building a number of the American type similar to those in our navy.

France has about 104 submarines, built and building. The French admiralty consider their submarine fleet one of the most important branches of their navy. These boats have performed some remarkable feats in torpedo work against the battleship. Vice Admiral Fournier of the French navy has made a report on the work of the submarines in the French naval maneuvers of 1906.

After dwelling at length upon the remarkable efficiency of the submarine, citing numerous instances in which it had proven its ability to torpedo battleships under conditions incident to the warlike maneuvers, the admiral in his conclusion declared that in the future no battle fleet will be able to retain its full efficiency, defensive and offensive, and above all as a preventative of all possible aggression, unless there be associated in its composition submarines with the heavy fighting ships.

All of the other leading naval powers are building submarine boats. We hear a great deal of the security afforded by submarine mines, but Great Britain has abandoned submarine mines and, to a great extent, other fixed coast defenses in favor of submarines and has turned over the shore stations to her submarine boat service.

The submarine boat appeals particularly to those who favor an economical defensive naval policy rather than an enormous outlay for huge, floating fortresses for defensive purposes. Former Secretary of the Navy Metcalf in one of his reports states: "Of the submarines two have been sent to the Philippines, where they are now in commission; two on the Pacific coast have been commissioned, and on the Atlantic coast all of the newer ones have been kept employed with gratifying results. The enthusiasm and zeal displayed by the officers and men of these craft point to real efficiency and indicate that they will prove valuable to the service in time of need."

After speaking of battleships and cruisers the report continues:

"In addition to these fighting ships intended for the line of battle, all navies are building scouts, or unarmored cruisers, of displacement ranging from 3,500 to 5,000 tons, lightly armored, but of very high speed, 23 to 26 knots, as well as torpedo craft, which term includes destroyers, torpedo boats and submarines."

What the submarine boat of a decade hence will be cannot be guessed at, but it is probable that it will be as much of an improvement over the present type as this is over the type of 10 years ago, if not more.

Despite its development up to the present time and its wonderful efficiency, though most of the tests made are conducted with such secrecy that no one save the crews and the naval boards know anything of them, the submarine craft is not new; that is, the theory is not.

Alexander the Great used diving bells in his siege against Tyre in 332 B. C., so history states, but the report is exceedingly vague. There are also some other references to submarine experiments made from the eleventh to the fifteenth century, but the first real attempt to navigate beneath the surface was made by a Dutch physician named Cornelius van Drebel, who in 1626 launched a submersible craft that was so successful that two other larger boats were constructed along its lines.

In the larger of the craft James I made a lengthy trip. The vessel was of wood and was propelled by 12 oarsmen, the oars projecting through leather sleeves. Drebel held his chief secret to be a liquid which purified the air, and when he died his secret died with him.

In 1691 a John Holland took out English patents on a submarine vessel and it is a curious coincidence that the submarine invented by the present John Holland should be accepted by the English admiralty as the highest type of vessel of that class.

From 1691 until 1850 there were a score or more of inventors who presented their types of underwater craft, all of which failed, many of them drowning their originators. In 1850 a German named Wilhelm Bauer entered the contest for the supremacy of the sea, and it is said did more to materially advance the science than any other man up to his time.

This first two craft were failures, but he did build in Russia in 1856 a vessel 52 feet long, 12 1-2 feet beam and 11 feet depth, in which he conducted 134 experiments, one of them being a four-hour submersion with a number of people on board. He finally lost his vessel by it sinking, and, having reached the end of his resources, left Russia and dropped out of men's sight and records in that particular sphere.

The most notable use of a submarine vessel in warfare was during the civil war, when the confederates successfully attacked and sank the United States ship Housatonic off Charleston, in which the submarine and its crew of nine were lost. There stands today in a cemetery in Charleston a marble shaft as a memorial to those nine brave men who were actually the first to successfully operate an under-water craft in naval warfare.

This vessel, which was named the Hunley, was made of a cylinder boiler 25 feet long and 48 inches in diameter. Fore and aft were placed water tanks for ballast, which could be emptied or filled by valves. To the bottom was bolted iron castings so fitted that they could be released from the inside in case the water ballast could not be ejected. The releasing of the castings would thus bring the boat to the surface quickly.

To propel it was an ordinary screw propeller attached to a shaft on which there were eight cranks at different angles. This shaft eight of the crew worked, while the other man steered and looked out for the torpedo, which was a copper cylinder holding 90 pounds of explosive, and was rigged on a long boom.

Three times the boat sank, and each time from six to nine men were drowned, but despite her evil reputation and the 23 lives to her discredit nine more brave men volunteered to go to their deaths, thus making up the roll of 32 who sacrificed their lives in her.

To her last crew, however, belongs all the credit and glory, for despite many handicaps and narrow escapes from perdition, while practicing they made their way seven miles to sea on February 17, 1864, and speaked up on the Housatonic, calmly lying at anchor. At 8.45 o'clock in the evening the officer of the watch of the warship saw what appeared to be a large plank approaching. Two minutes later the "plank" struck the ship about amidships; there was a terrific explosion, and what had been a stately frigate became a hopeless wreck and sank so quickly that few of her crew were saved.

At the time it was thought that the submarine had escaped, but three years later when divers went down to view the wreck, the submarine was found fixed in the hole which its torpedo had made and into which the suction of water had drawn it.

There is a vast difference between the Hunley and the Octopus, but it is highly probable that 40 years hence the difference between the Octopus and the boat of that time will be as great, and it is also highly probable that from now on the American navy will not cease in the development of the under-water battleships.

FACTS ABOUT PEOPLE.

F. von Strantz has obtained a German patent for a process of destroying insects on plants by the application of a mixture of limewater and the ammoniacal liquor of gas works.

Sir William Wallace, a general in the Nigeria, has reported to his home government, Great Britain, that cannibal tribes owning hundreds of thousands of horses in Nigeria are being peacefully subdued, and that the country contains perhaps the richest tin and copper fields in the world.

Two more Americans have been made knights of the pope—Knights Commanders of the Order of St. Gregory. They are Morgan J. O'Brien, formerly justice of the New York supreme court, and Eugene A. Philbin, formerly district attorney in New York.

BETTER THAN SPANKING.

Spanking does not cure children of bedwetting. There is a constitutional cause for this trouble. Mrs. M. Summers, box W, South Bend, Ind., will send free to any mother her successful home treatment, with full instructions. Send no money, but write her today if your children trouble you in this way. Don't blame the child, the chances are it can't help it. This treatment also cures adults and aged people troubled with urine difficulties by day or night.

WHITE SLAVERY WAR EFFECTIVE

CRUSADE AGAINST NEFARIOUS TRAFFIC GAINS A FORMIDABLE START.

Chicago, Aug. 7.—Determined efforts against white slavery by the state's attorney's office and the new Illinois statutes are having electric effect on the resort keepers, cadets and procurers in Chicago, reducing their nefarious traffic in girls, the innocent ones particularly, right at the usual harvest season for them. The value of the new statutes is demonstrated daily. Most of the recruiting for disorderly houses is done during the summer. Now their efforts are largely directed to the excursion steamers, but a drastic federal law will be the basis for a sensational raid soon in that direction.

Active efforts are planned for extending similar laws directly aimed at the traffic in enticed, bewildered and deceived girls into other states than the eight which this spring passed such legislation through the efforts of the Woman's World committee on legislation. Encouraging strides have been made, but there are over 20 states yet unprovided for with the laws under which prosecution can be had. Looking backward, the beginnings of the campaigns are extremely interesting considering to what proportions it now has grown. A member of the committee, Rev. Ernest A. Bell, superintendent of the Midnight Mission and secretary of the Illinois Vigilance association, has related the discovery that started the authorities into investigations which disclosed an enormous, systematic barter of girls and women from rural districts and foreign countries. He said:

"About six years ago a notorious women who kept a gilded resort on South Clark street died, and the property was leased for a rescue home. The windows of the house were found barred like the windows of a prison. Many such windows can be seen in the houses formerly used as dives in custom house court—now Federal street.

"On January 30, 1907, O. H. Richards told me he had rescued a girl from a resort on Armour avenue, after the woman who kept the place had refused to surrender the girl to her mother and stepfather, on the claim that the girl owed $20 for clothes. As there were three good witnesses who could not be impeached, I saw that this was a good case to bring into court. The woman was arraigned before Judge Newcomer at Harrison street, January 21, was convicted, fined and 'Bertilloned.' She immediately abandoned her loathsome business, and is a good women today. The girl was soon afterwards married to the young man of her choice.

"Assistant United States District Attorney Roe and Judge Newcomer had to deal with many cases of wrongs done against girls in the court at Harrison street. It was abundantly proven in scores of cases that a constant commerce in American and foreign girls was carried on in Chicago and other cities. Many shipments of girls from Paris to New York and Chicago were constantly made by the French white slave traders."

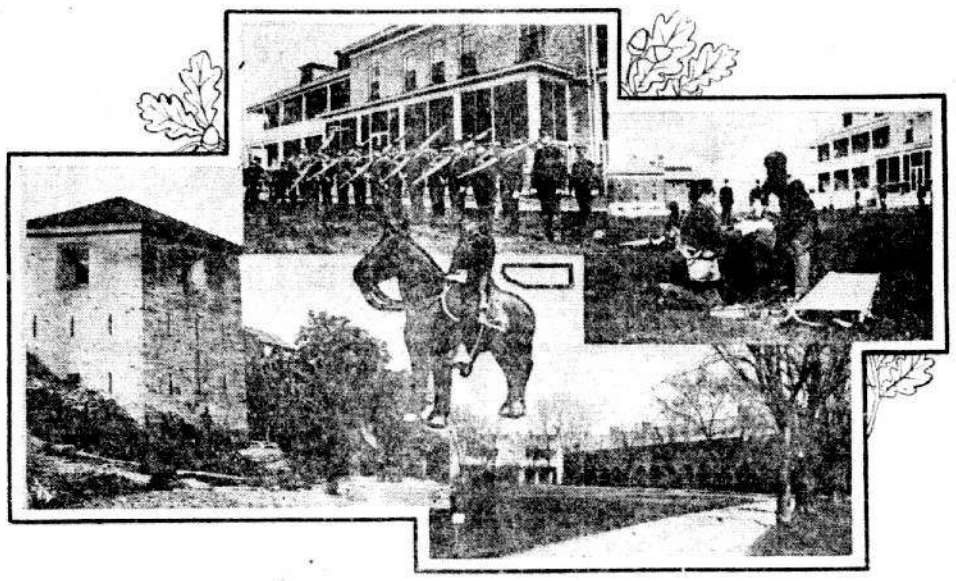
UTAH DEMONSTRATES VALUE OF SCHEME

Nephi, Utah, Aug. 7.—Since the state established a dry farming experiment station near here six years ago and demonstrated the success of that system of farming, 20,000 acres of dry land have been reclaimed and is now in wheat in this vicinity. As a result of the dry farming operations in the territory tributary to this city, Nephi has developed into one of the busiest as well as most attractive cities in Utah.

J. W. Paxman of this place, executive committeeman for Utah of the Dry Farming congress and a successful farmer, is making arrangements to have the results of the work accomplished at this experiment farm displayed at the International Dry Farm exposition, which will be held at Billings, Montana, October 25-29, in connection with the Dry Farming congress.

The greatest part of the activities at the local farm have been directed toward determining the best wheat for dry farming in Utah, the best manner of preparing the ground and the most favorable season for sowing. The results of this investigative work will be described at the coming Dry Farming congress. The local farm is in charge of F. D. Farrell, an expert agronomist, who has had remarkable success in adapting the principles of dry farming to the climatic and soil conditions of this region. An effort will be made to have Mr. Farrell attend the Dry Farming congress at Billings, and describe his work.

AT OLD FORT SNELLING



St. Paul, Aug. 7.—A flattering report on the condition of the infantry, artillery, signal and hospital corps now stationed at Fort Snelling has gone on to Washington as a result of the summer maneuvers just completed, during which Major Miller and other officers, as inspectors, made a rigid examination of the post and its equipment, the troops and their proficiency in field operations. The work of the inspector and his aides occupied a full week and covered every branch of the service now stationed at the fort. The week's work terminated with field operations between a red and brown army, during which the troops were spread out over a battle front of six miles, and every arm of the service from artillery to field telegraph was brought into use. The work of the and heavy booming of the drill guns continued for practically the entire day, until the umpires adjudged the brown army to have caught the reds in such a position that a defeat, metaphorically speaking, had occurred.

The cavalry, of which the Fort Snelling fort now has a strong force, came on the field with the infantry and charged across the wide mesas of the reservation and engaged in all the maneuvers shown in the tactics. A field hospital was put in with the artillery and the hospital and signal corps together with the infantry, carried their share of hard work.

The inspecting officers expressed themselves much pleased with the showing made by the troops, and Fort Snelling will occupy a secure position in the favor of the war department for another year.

The fort is an ancient northwestern landmark. Its old round tower, which is still standing, was erected in 1819, a year after the establishment of the fort. At that time St. Paul was an Indian trading post, and its entire growth has occurred since the post was first laid out. Its early development was under the guns of the fort and the protection of the troops stationed there. The fort has been continuously occupied, and is now one of the six great army posts of the United States.

IN HOT WEATHER.

"Humans," said a nature lover, "are by no means the only sufferers from intense summer heat; there are plenty of lower creatures that suffer.

"Fish, for instance, are oppressed by the heat, just as we are, and if they can't find shelter from it they may be killed by it. In shallow fresh water ponds fish sometimes die in the hottest days, killed by the excessive heat of the water, warmed beyond their endurance by the heating sun.

"In streams fish seek the shady stretches and the deep places and the spring holes, where they can keep cool, and in salt water fish go away from the shallow, overheated water close to shore and seek the cooler depths.

"Birds suffer in the same way [illegible] pressed by extreme heat, and how they do welcome a chance to get cool. Look at the sparrows in the city's streets when the sprinkling cart goes by, leaving in the hollows of the pavement little pools of water that will serve them for bathing places. How eagerly the sparrow seeks this bath, and it will bathe, if it gets the chance, a dozen times a day.

"It is just the same with domestic fowls. Extreme hot weather distresses them greatly; at such a time you can see chickens with their beaks open and fairly panting with the heat, and then they want plenty of water.

"Cows? Of course. On the very hot days they seek the trees, if there are any in the pasture lot, to stand in the shade of them, and then if they are bothered by flies the cows seek shaded pools or brooks to stand in them in water up to their bellies or deeper to escape the flies and for cooling refreshment. How horses and dogs suffer with intense heat everybody knows." —New York Sun.

STERILIZED BARBER SHOP.

A Famous Shop in the Carrollton Hotel, Baltimore, Maryland.

The barber shop in the Carrollton hotel, Baltimore, sterilizes everything it uses in the shop. The sterilizing is done by heat. The towels, the razors, the strops, the soap, the combs and brushes are all sterilized before being used on a customer. Where there is no sterilization, have the barber use Newbro's Herpicide. It kills the dandruff germ and it is an antiseptic for the scalp and it is the best after shaving. All leading barbers everywhere appreciate these potent facts about Herpicide and they use it. "Destroy the cause." You remove the effect. Sold by leading druggists. Send 10c in stamps for sample to The Herpicide Co., Detroit, Mich. Missoula Drug Co., special agents.

Notice.

The assessment rolls of Missoula county for the year 1909 are now in my office ready for inspection.

P. W. KUHAL, County Clerk.

The Laziest Man in the World

would not be contented to be kept in the house and doing nothing by rheumatism. Neither are you, who are always busy and active. Then don't neglect the first twinge of an ache or pain that you might think is just a "crick." Rub well with Ballard's Snow Liniment and no matter what the trouble is it will usually at once relieve.

WILL DEVELOP GREAT HORSEPOWER

SANDPOINT TO BE THE SITE OF A LARGE CONCENTRATING PLANT.

Spokane, Aug. 7.—The Idaho Power & Concentrating company, recently organized with a capital of $500,000 by R. C. Reinerston of Park River, N. D.; Ralph Reinerston and G. H. Hipke of Sandpoint, C. L. Finneseth of Park River, N. D., and A. K. Erickson of Story, Iowa, has been incorporated for the purpose of improving the water power on Trestle creek, between Sandpoint and Hope, Idaho. The company will also erect a concentrating plant on the site on the lake shore and near the Northern Pacific tracks east of Sandpoint. The plant will handle ores from the various mines on Lake Pend d'Oreille and others who desire to make shipments in by rail. The power to be developed on Trestle creek is 1,000 horsepower and will be used to operate the concentrator plant, also supplied to the mining properties on the lake shore. Power will also be transmitted to Sandpoint and other places. Contracts have already been signed by several of the mines for the use of the electric current. The site selected for the concentrating plant is an ideal one, and is easy of access by rail and water. A deep harbor is to be laid on the lake, while a switch track will be built to the plant from the main line of the railroad.

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