

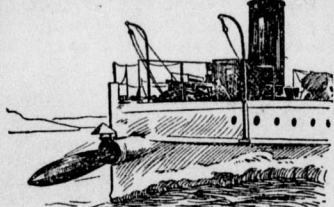
# TERRORS OF THE OCEAN.

## Torpedo Boats and Torpedo Boat Destroyers.

Of the torpedo boat the public has a fairly accurate notion, and knows that her chief purpose is to plant one or more fatal stings against the sides of an enemy, but the torpedo boat destroyer ranges, in imagination, all the way from a counter-mining machine to something just short of a good-sized cruiser. The torpedo boat destroyer is really a magnificent torpedo boat of great speed, better sea-keeping qualities and with a battery of rapid-firing guns of from five to eight six-pounders. She is built purposely with an outward appearance closely akin to her natural quarry, that she may the better approach unsuspected within striking distance. She also carries a torpedo outfit, and in her the battleship and the cruiser have even a more dangerous enemy than in the simple torpedo boat, for where the small craft, by stress of weather, limited speed, or restricted endurance must halt, the destroyer may continue with all the more certainty of carrying out its murderous mission.

Of the eleven boats on which we may count in a short while, two of them may be classed as destroyers, the Farragut and the Rowan; two of them as thirty-knot torpedo boats, the Craven and the Dahlgren, and the rest as torpedo boats of ordinary speed.

The Farragut, Rowan, Davis and Fox are building on the Pacific coast; the first by the Union Iron Works, of San Francisco; the second by Moran Brothers, of Seattle, and the last two by Wolf & Zwicker, of Portland, Oregon. The Dahlgren and Craven are building at the Bath Iron Works, Bath, Me.; the Morris, Talbot and Gwin at Herreshoff's, Bristol; the Mackenzie at Charles Hillman's yard, Philadelphia, and the McKee at the Columbian Iron Works, of Baltimore; and it is of interest to note that these last two boats are of the type recommended by the chief constructor and engineer-in-chief as the most readily susceptible of rapid duplication in event of need.



DISCHARGING A TORPEDO FROM THE BOW OF THE U. S. TORPEDO BOAT STILETTO.

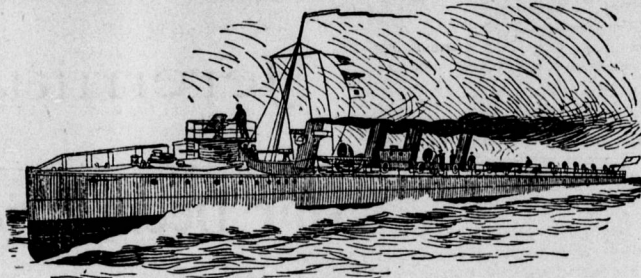
In a prolonged conflict, that type will survive that can be easiest replaced or repaired, and from all we know now of the complicated nature and time demanded in building armored ships, it is easy to see the position torpedo vessels of all sorts will fill. They may be called the moment's most effective fighting machine, but can hardly be confused with the greater defensive qualities of the battleship.

The whitehead torpedo is no longer the secret mechanism it was some years ago, owing principally to its general adoption by nearly all naval powers, and its inside workings are commonly understood by all well versed military and naval men. A knowledge how to work it, though, is another matter, and, briefly, it may be said that every torpedo of the Whitehead type has its own individuality, its own idiosyncrasies; and it is the duty of every qualified torpedo officer to learn the characteristics of those "steel babies" that some day may win him glory.

The largest of our torpedoes, the eighteen-inch, so known because that at its greatest diameter, is a blunt-headed, cigar-shaped body of steel a trifle over sixteen feet long, propelled by

against. Besides the boiler compartment and the engine compartment, there are four other subdivisions. One for the carriage of that murderous load of 220 pounds of gun cotton at the head, and the others for regulating the air supply to the engines and for maintaining the torpedo at any determined depth of submergence.

When attacking vessels at anchor and likely to be protected with torpedo nets, the nose of the torpedo is fitted with a cutter; and no ordinary fabrication of steel rope and chain could withstand the ripping force of that instrument backed by the rushing force of nearly 1200 pounds. The torpedo is ejected from the tube by the discharge of about four ounces of powder. In passing out, a little trigger or clip turns on the power for the engines, and, by the time the torpedo has dived, the engines, with-



A PERFECT TYPE OF THE TORPEDO BOAT DESTROYER.

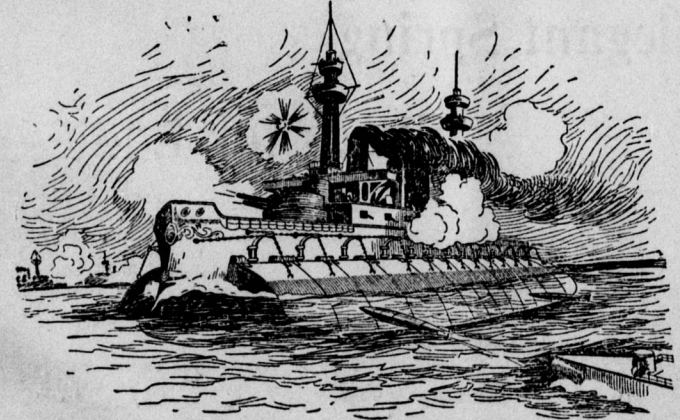
out jar, are running at full speed. When clear of the boat a few yards, a safety device drops from the nose and leaves the plunger bared to detonate the fighting charge within. Striking a ship from ten or fourteen feet below the water line, it will tear a wound with such awful force that the heaviest of armor must yield.

In the hands of either the ignorant or heedless, the modern torpedo is a menace to friend or foe; but in the hands of the skilled and resolute, it is the wickedest implement of warfare—wicked in threat and wicked in deed.

It is to bear the modest burden of a half dozen such "babies" that the largest of our torpedo boats are built.

The torpedo boat or the destroyer is anything but a thing of beauty. Their sea-green hulls, the absence of bright work, the presence of those torpedoes, and a knowledge of their somber mission of stealth and destruction, stamp with them the impress of something akin to official piracy. There are no odds offered the enemy. It is not a struggle between equal powers where skill and facility of handling may win with open honors. Instead, it is a case of a giant and a pigmy armed alike with one common implement capable of ruining either. The weaker, though many times more agile, cannot take the chances of equality; but, instead, must creep upon the adversary and compel his surrender only when the sense of his dying condition is borne in upon him with the force of that one conclusive blow. What are the chances of succor offered in return? The torpedo boat has done her frightful work, and now is too small to bear or save the hundreds she has doomed. She has not only subdued, but she has poisoned her victory with the venom of desertion. In turn, she faces the promise of absolute destruction in case of prompt detection; but the blow falls with a reasonable hope of relief for the wounded and the living from the larger craft.

Death lies precious close at all times on board a torpedo boat in war times. The crew must face death by the destruction of the boat; death by foundering; death by the bursting of the throbbing boilers or pulsing steam pipes; death by collision; or death by the premature bursting of their own petards. She must face the storm of



A TORPEDO-CATCHING NET.

(The shield is a false outer steel wall and protects the United States warships from the dangerous and numerous Spanish torpedo boats.)

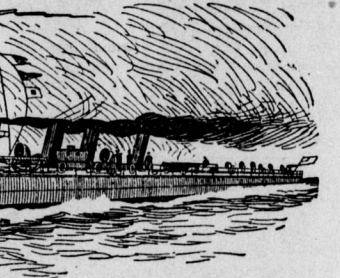
miniature engines, capable of developing within the limited space of an average-sized cheese-box, a driving energy of thirty horse-power. With that force turning its twin screws, the miniature craft can be turned for a mile and a half at the rate of thirty-five miles an hour. Compressed air is the motive power; and it is crowded into the ten-foot boiler of this small boat till a pressure of ninety times that of the air we breathe is reached. The explosion of that boiler is a dangerous possibility to be guarded

light projectiles every modern battleship can send from her batteries, one-pounders, six-pounders and galling guns, all of which may bring death, and, with the exception of the galling bullets, all of which may pierce the sides and boilers of any of these boats.

When running at top speed, the boats quiver from stem to stern with a wearing vibration hard to bear in company with the nervous tension of serious work. Down in the stokehold the firemen, before the blinding

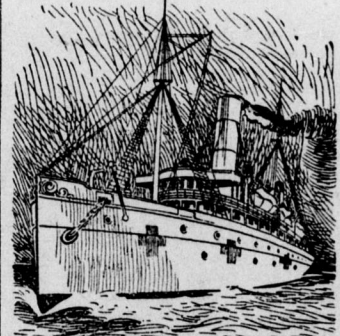
glare of the white-hot furnaces, feed the ceaseless voracity of those blistered mouths with endless shovelfuls of coal, that the pressure may be kept up to supply the greed of those driving engines lying just behind in the next compartment. The air is full of dust and grime, and one's head swims because of the heat. In the engine room the roar is thundering, and the parts move back and forth, up and down with the velocity of 800 changes a minute. A stray shot in there, well placed, may burst a cylinder teeming with the pressure of more than 200 pounds of scalding steam or liberate the hammering weight of a driving piston and send it tearing through every neighboring part with the stunning violence of many tons of rending, ripping force. Such are the odds that must be faced for the safe carriage of those other forces she has at her command; and to the youngest officer in the service may fall the honor of that accomplishment before which even a battleship might hesitate. The work cut out for the torpedo boat is quite akin to that of leading a forlorn hope; but when the time comes good men and cool in plenty will be found ready to forget themselves and laugh at death in even this dread service for our flag's defense.

Torpedo warfare began during the



HOSPITAL SHIP SOLACE READY FOR WAR.

American civil war, but so crude were the early torpedoes and so little opportunity has there since been to study the action of modern torpedoes in actual war that naval officers all over Europe have looked forward eagerly to a war between the United States and Spain as an object lesson. That the torpedo years ago passed the experimental stage and stands to-day as the most wonderful and terrible of modern engines of war is not to be doubted, but it has had no real test of its power. Not one torpedo has been fired in war-



HOSPITAL SHIP SOLACE READY FOR WAR. (She has been painted white with a green stripe along the water line. Three large red crosses are on each side of the vessel.)

fare by any of the leading naval powers in more than twenty years, and so great has been the advance in torpedo construction within this time that the early tests are of little value to the present student of naval affairs.

Since the torpedo became a machine of precision it has been used in warfare only by insurrectionists and weak Nations. The war between China and Japan three years ago gave some idea of the value of the torpedo, but neither its full value nor its place could be determined in that short and unequal contest between two half-civilized Nations.

Thirty-seven torpedo attacks have been made thus far, sinking a dozen ships and damaging one other. Six assailant boats have been lost.

### X-Rays in War Hospitals.

A Milwaukee man, one Lynde Bradley, appears to be the first man to use the X-ray in the war hospitals in case of hostilities with Spain. The great ease with which a bullet or splinter could be found in the human body with this strange light commends its use at once. It would seem that the Government officials would approve of its adoption. According to Mr. Bradley, it would be a very simple matter to provide for the ray on a war vessel, but the introduction of a machine on the field would be attended with considerable difficulty. For instance, a small engine, boiler and dynamo and the machine itself would have to be put on wheels for field service. This outfit, however, would be much lighter and more easily transported than would be imagined, and the one Mr. Bradley has designed could be built in a week. Mr. Bradley has long been an enthusiast in the use of the X-ray and has done some excellent work with it. In case of war he proposes to build a machine and offer his services to the Government.

### Blending Odors.

Recent experiments have demonstrated that odors can be mixed according to the law by which colors are blended. One odor completely masks another because of its intensity, but by reducing this intensity the other odor can be felt. Any two odors can be mixed so as to produce the effect of a simple odor.

### HELPS FOR HOUSEWIVES.

#### Makes Meat Tender.

Do you love to have your meats tender? Then never allow them to boil when cooking in water. Tough meats become tender by proper cooking, while the reverse of this is equally true. Indeed, hard boiling in salted water will toughen the best piece of meat ever sold. Consequently, always let the kettle simmer on the back of the stove, and any meat will generally become nice and tender.

#### Loops of Kid Gloves.

Loops for hanging up garments are always wearing out and breaking, particularly on heavy garments. The best way, of course, is to have hangers—or forms—for them, but if you haven't them you can make a serviceable loop by cutting a strip of kid from an old glove, roll it in a piece of coarse string and sew the edges of kid neatly together. This loop, sewn securely to place, will stand any amount of wear and pulling.—Detroit Free Press.

#### Facts to Be Remembered.

All dry materials should be sifted before measuring. A cup holding just half a pint is the standard measuring cup. A cupful is all the cup will hold without running over—full to the brim. A scant cupful is within a fourth of an inch of the top. A tablespoonful of flour, sugar or butter is a rounded tablespoonful. A teaspoonful of salt, pepper and spice is a level teaspoonful. A heaped spoonful is all the spoon will hold. Half a spoonful is measured by dividing through the middle lengthwise. A speck is what you can take on the tip of a penknife.

#### A Good Remedy for Burns.

If our readers are not familiar with the fact that common baking soda (bicarbonate of soda) is a particularly good application to any comparatively slight burn or scald, then, if used when such an accident occurs, they will probably receive the full value of a year's subscription to our paper. The way to use it is to sprinkle the burn as well as the cloth to be applied, freely with the soda, wrapping the injured part with the cloth and keeping it well soaked with cold water. It may be well to repeat the application, as the water washes the soda away. By this treatment scalds that are pretty severe are relieved from pain in the course of six to ten hours. It gives relief at once.

Paste this up in the kitchen, if you are forgetful, and be sure to have some soda on hand for burns only. When you need it you will want it very badly. The writer knows from experience.—Farm, Field and Fireside.

#### Good Things Made of Cheese.

Cheese is justly a highly appreciated food. It has many possibilities. At dinner, the cheese course is usually served just before the dessert. It often is a pleasant accompaniment to chicken salad. In London, cucumbers are served with cheese. An appetizing dish at a little chafing-dish supper was made of cheese crumbled. One recognized a seasoning of mustard, pepper, salt and vinegar.

Cheese Tarts—Ordinary puff paste tarts are filled with creamed cheese, the recipe for which is given below.

Cheese Omelet—Melt two tablespoonfuls of butter, four beaten eggs, four tablespoonfuls of cream, pepper, celery salt and nearly a cupful of grated cheese; fry, fold and serve.

Fried Bread and Melted Cheese—Dip Slices of bread into two beaten eggs and four tablespoonfuls of milk; fry carefully in butter. Slice (thin) cheese and place on the bread. Stand in the oven until cheese melts.

Cheese Straws—Four tablespoonfuls of grated dairy or Parmesan cheese, four tablespoonfuls flour, pepper, salt, two teaspoonfuls of water, the yolk of one egg, roll out. The straws must be cut in narrow strips, bake on greased letter paper.

Scalloped Cheese—Butter a small baking dish. Use alternate layers of breadcrumbs and thinly sliced cheese. Dot the former with bits of butter and chopped celery, pepper and salt. Add a cupful of cream and a beaten egg. Bake in a hot oven.

Cheese Cakes—Cook one-half a pint of milk curd, one cupful of cream, one cupful sugar, one-half a pint measure of cocoanut, and the yolks of four eggs, until thick. When cold, add one teaspoonful vanilla or almond extract. Fill patty shells and bake.

Creamed Cheese—Melt one-half pound of rich dairy cheese and one tablespoonful of butter, then add the yolks of two eggs and six tablespoonfuls of cream, well beaten, celery salt, and a dash of white pepper. To be served on dainty squares of hot buttered toast.

Cheese Sandwiches—Mix thoroughly one teaspoonful of mayonnaise, one cupful of grated cheese, the yolks of three hard-boiled eggs; butter the bread very thinly, and spread ditto, fold or roll the sandwiches. Slice brown bread very thinly, lightly buttered. For the filling, mix chopped olives and cottage cheese, or dairy cheese and salted almonds. In other sandwiches the bread is first spread with sauce Tartare and next with cheese. Very delicious are those made of cheese and walnuts. One-half cupful of English walnut meats, one cupful of cheese, a dash of red pepper, a little salt, chopped, a little mayonnaise dressing mixed with it. Spread on thinly sliced bread. Another combination filling consists of Neuchatel cheese, lettuce and mayonnaise.

### STRANGE MONSTER, THIS.

Living Below Ground, It Needs Neither Light Nor Air.

That an animal may live nearly two hundred feet below the surface of the earth without a bit of sunshine or the smallest opening for the admittance of fresh air seems an incredible thing, but Cornell University, at Ithaca, N. Y., has just received scientific proof that such a thing is possible. The proof, too, is conclusive, for it is the possession of the animal itself and a



AN UNDERGROUND MONSTER.

(An animal that lives nearly two hundred feet below the surface of the earth without a bit of sunshine or fresh air.)

careful and accurate description of its manner of living and the method of its capture.

The animal referred to is a species of the salamander, but it is much different from the little red lizard-like animals that are often found in mud puddles after a hard rain. Indeed, it could not live for any length of time in the open light and air like the salamanders with which we are acquainted. The bottom of an artesian well 181 feet deep which was recently bored at San Marcos, Texas, seems to be the only place where the little creature has been able to exist; at least, the only place where it has ever been found.

The three specimens of this wonderful little animal, which has been christened with the scientific name of Typhlomolge—the name seems as strange as the animal—were given to the Cornell University Museum by Hector von Bayer, architect and engineer of the United States Fish Commission. It is said that only six of the species have ever been found, and that these have all come from the same artesian well. As it has several peculiar characteristics heretofore entirely unknown to scientists to have existed in living animals, the typhlomolge is the most important and interesting of all the remarkable tailed batrachians.

The illustration gives the reader a good idea of the appearance of the animal in a general way, but a close examination shows the most striking peculiarities. Its skin is pure white in color, and there is no external eye whatever. Its legs are unusually long for such a small animal, the proportion being greater than ever before known among tailed batrachians.

#### The Difference in Men.

Some men always have a job, while others are always looking for one. Willie Boler, of Atchison, has had steady work for several years, although he is deaf and dumb and has no legs. His brother Joe was a great big fellow and perfect as to speech and legs, but never had a job in his life.—Atchison Globe.

#### Poor Carlotta.

The latest news which has been given to a sympathetic world concerning the condition of poor, mad Carlotta, the ex-Empress of Mexico, is



FORMER EMPRESS CARLOTTA.

that she has never rallied from the shock which dethroned her reason at the time when her husband, Maximilian, was shot and that her health is in such a state, she can survive but a short time.

#### A Valuable Recruit.

General Goldbraido—"So you wish to enlist in the Spanish infantry, do you? Have you good qualifications?"



Spanish Recruit—"I have a record of thirty minutes in the six-mile run." General Goldbraido—"Excellentissimo perfecto! I will make you an infantry captain and you shall lead your soldiers in glorious retreats. Excelenza! There will be a few Spanish left after a fight."—Judge.

### SCIENTIFIC SCRAPS.

Astronomers tell us that in our solar systems there are at least 17,000,000 comets of all sizes.

There is enough salt in the sea to cover 7,000,000 square miles of land with a layer one mile in thickness.

In Germany peroxide of hydrogen is said to be mixed with various drinks, in order to give them the mellow flavor of age.

The hydra fusca, a sort of polypus, may be turned inside out like a glove, and will continue to live and eat as heartily as ever.

It has been proposed to equip London policemen with portable electric batteries to feed electric lights on their helmets.

A curiosity of the Stockholm exposition is a pine tree section four feet in diameter from 60 or 70 miles north of the Arctic circle.

The world's useful fibers number 1018, according to a catalogue by the department of agriculture, about 30 being used in the United States.

In French trails, a mixture of ten parts of air and one part of acetylene has proven suitable for ordinary gas engines, giving three times the energy of ordinary illuminating gas.

A single bell is made by a German manufacturer to give more than one note. A number of dents divide the bell into sections of different sizes, and each section, when struck, emits a tone corresponding to its size.

The fact is stated that in a single one of the standard locomotives employed by a leading railroad of America there are, counting individual rivets and bolts, though not nails in the cab and tender, over twenty thousand pieces.

The gradual cooling of France is proven by its vegetation. The Italian poplar, common in early French etchings, is now seldom seen in the country, while the lemon has disappeared from Languedoc and the orange from Roussillon, and the northern limit of many plant species has shifted far to the southward.

A noiseless and more efficient flame for incandescent gas burners is produced by giving the air and gas a rotary motion to thoroughly mix them as they are admitted to the bottom of the burner, the mixed air and gas then being heated by means of corrugated rings in the burner, which draw heat from the flame above.

Sunken iron ships which are too deeply submerged to permit of the descent of divers to make connections for raising them can be lifted by means of powerful electro magnets attached to lifting ropes, the magnets being lowered until they strike the wreck, when an electric current is applied through wires to cause them to grip the boat.

#### Don't Cross Your Legs.

Don't cross your legs! Not only is it bad form, but is one of the worst things in the world for a man or woman. It is particularly injurious for women to sit with one leg swung over the knee of the other.

Many have often wondered how in the world they have contracted a splitting headache, or why their feet get so cold at times. These two troubles and a score of others are due solely in many cases to the common habit of seeking comfort by crossing the legs.

Cold feet, varicose veins, headache, ulcers and countless other troubles from the improper circulation of the blood in the lower limbs are caused by the pernicious habit of crossing the legs.

If you cross your right leg over the left knee you will notice that the whole weight of the suspended right leg is sustained by the left knee, which places all of the pressure against that under part of your right leg between the calf and the kneecap. Now, any school text book on physiology will show that just in the very spot where all the pressure is placed there is a large number of large veins, nerves and arteries.

The mere fact of putting undue pressure against this spot in either leg has the effect of crowding all these tissues together, and the circulation of the life-giving fluid is materially interfered with. Of course, the absence of a plentiful supply of blood to the legs and feet causes them to become so susceptible to the cold air that the least draft causes the feet to become annoyingly cold.—Journal of Good Health.

#### A Very Old Violin.

Mr. Taylor Buttrill of Jackson has a violin that is 183 years old. It has been in his possession some twenty years, and is considered by first-class musicians to be a valuable and high-toned instrument. It was manufactured in 1715, and is perhaps one among the oldest of its kind in the south. Mr. Buttrill prizes his violin very highly, and as he is one of those "back date" musicians himself he sometimes takes the bow in hand and knocks off "The Arkansas Traveler" and "The Old Cow Crossed the Road" with a degree of satisfaction that could hardly be obtained from a violin of a later date than 1715. While he is not what would be considered an expert he can knock a tune out of that old violin that would surprise the natives.—Jackson (Ga.) Argus.

#### Round the Earth.

The time required for a journey round the earth by a man walking day and night, without resting, would be 428 days; an express train, 40 days sound, at a medium temperature, 3; 1-2 hours; a cannon ball, 21 3-4 hours light, a little over one-tenth of a second; and electricity, passing over a copper wire, a little under one-tenth of a second.