

# THE NEW SUBMARINE WONDER

## FOR OUR NAVY.

If the marvelous little submarine torpedo boat which the United States government has nearly finished at Baltimore does all the astonishing things the navy experts promise, she will be in large measure a real fulfillment of the dreams of Jules Verne in his masterpiece of fiction—"Twenty Thousand Leagues Under the Sea."

This is the only new war vessel ever built by our government upon which the longing eyes of ambitious naval officers were not turned. It is the first time the navy department has not been pestered by requests for assignments to duty on a new ship. And the reason is that the new boat is looked upon as a very promising submarine coffin for the first crew that ventures out in her.

Much of the warfare of the next century must be conducted by submarine fighting machines, and this extraordinary craft will, it is believed, solve the whole problem of under water war, to which inventors and naval experts

target that to hit it would be extremely difficult. At any time it can sink entirely out of sight at a moment's notice.

The chimney and air tube are withdrawn into the interior in a dozen seconds, the opening is hermetically closed and the craft dives. It descends by taking water into compartments intended for that purpose, thus changing its specific gravity, and also by inclining horizontal rudders so as to cause the nose of the steel fish to turn downward. The depth attained is regulated automatically, the limit of safety being about 66 feet. At a much lower level the pressure of water would crush the boat.

This submarine marvel has a double steel shell, and the space between the two coats is occupied by water ballast, coal bunkers and compressed air tanks. The interior of the craft is almost wholly filled with machinery. There is no space for officers or crew to sleep or eat. Food must be brought along in cooked

When the craft has been wholly submerged these engines are stopped, but there is enough steam at high pressure left in the boilers to propel the vessel for a considerable time longer. When it is on the point of exhaustion the propellers are connected with the electric motors, which will run the boat for sixteen hours.

### Makes Its Own Electricity.

The vessel makes its own electricity by means of its steam engines and stores it in its accumulators. This point gives to the Holland boat an immense advantage over most of the foreign submarine vessels, which depend wholly on electricity for motive power, and are obliged to go to the shore at short intervals for the purpose of re-filling their storage batteries.

When the boat dives valves are opened from the tanks, which contain air condensed under a pressure of 2,000 pounds to the square inch. By this means the atmosphere inside of the



have for years given such an incredible amount of study. This experiment, if successful, may render the great navies of the world powerless.

The new boat is the object of rapt attention from the naval nations of the world, who have learned in these latter years to look to America for instruction in the science of naval building. There is much speculation and uncertainty, however, even among our own naval authorities as to whether the new craft will, upon practical trial, do all that her inventor, J. P. Holland, claims for her. Experiments with submarine war vessels heretofore have been so disastrous, and the manipulation of this strange craft is so different from anything hitherto taught in naval institutions, that the question of manning her is causing the navy department a world of trouble.

### The Wonder of the World.

The craft is a wonder. It is nothing more nor less than a huge steel fish, with lungs capable of holding enormous quantities of fresh air, and possess-

ing a compact shape, to be consumed in such fashion as may be. Life on this ship, if she is, will not be a thing of joy. Much of the interior space is taken up by electric batteries and accumulators. Electric apparatus requires a good deal of room, but it makes no smoke and needs neither fuel nor air. There are also steam engines run by petroleum, and tubular boilers consisting of a labyrinth of pipes. The steam engines generate the electricity that is stored in the accumulators.

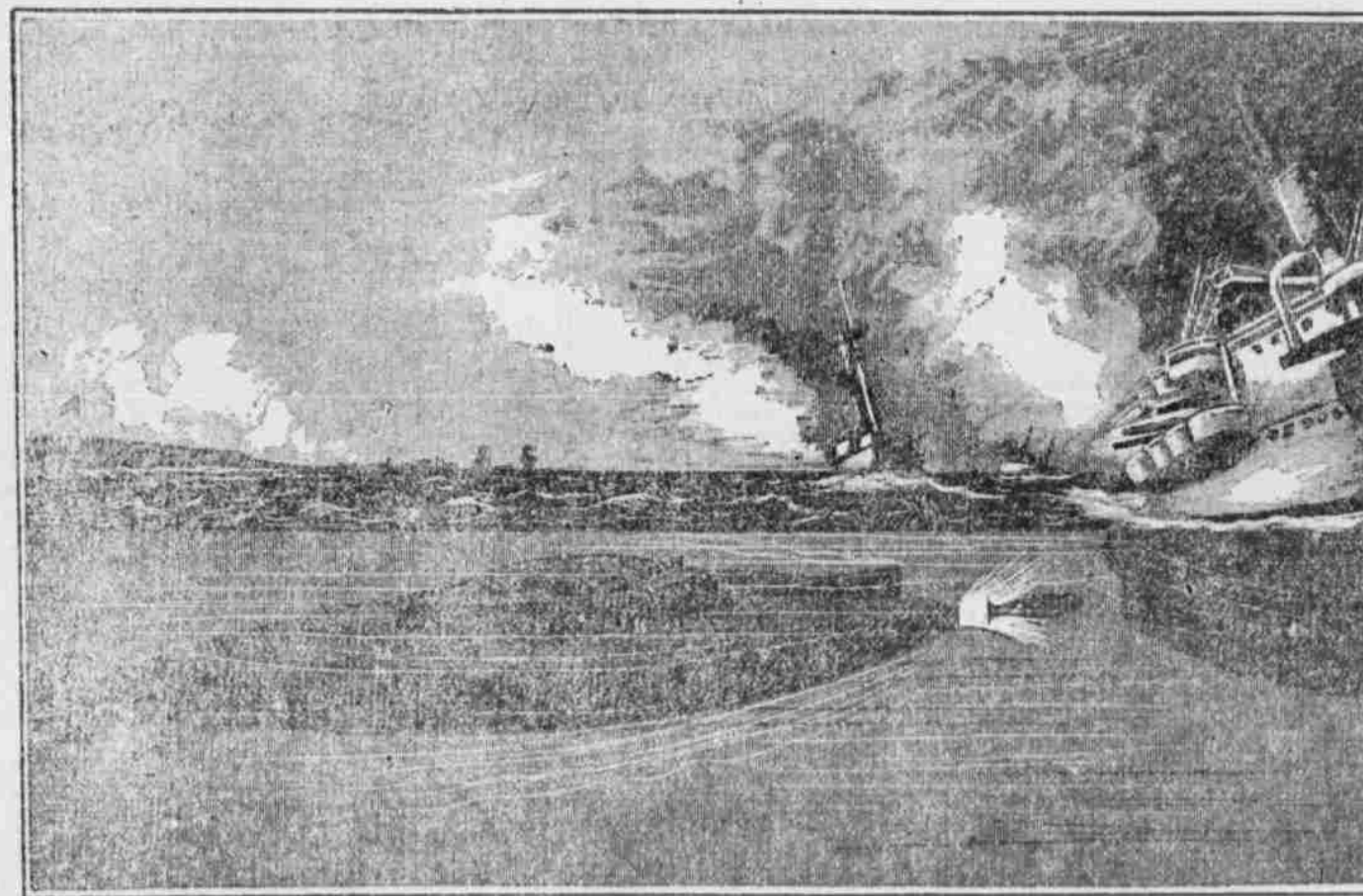
### Traveling on the Water's Surface.

Suppose that the boat is traveling on the surface of the water, at a sixteen knot gait, when the pilot, looking out through a glass window in the turret, sees a hostile warship coming. The warship is of such vastly greater size that he spies it long before the enemy's lookout can possibly see the diving craft. He touches a button on an electric switchboard at his side, which transmits an order to the engine room. Without half a minute's delay the boat sinks until her superstructure is just

submarine vessel is kept good for half a dozen hours. In case it gets close and bad, the foul air may be pumped out. It is not necessary for the craft to rise to the surface even when the air stored in her reservoirs has been exhausted. In such a case a two-inch hosepipe is unwound from the reel, its free end being attached to a float, which, when released, rises to the surface of the water, carrying with it the hose. Through this fresh air is pumped into the vessel, and the storage tanks are refilled under pressure. Thus it will be seen that the boat is able to stay under water almost indefinitely, not being obliged to come to the surface to take breath. Three days' provisions are carried for the persons on board, four officers and eight machinists.

### Its Organ of Vision.

The most wonderful thing about this boat, however, is the organ of vision for seeing while submerged. It has a single huge eye, by means of which it is able to survey the ocean's sur-



### THE NEW TORPEDO BOAT.

ing a single great eye for surveying the surface of the ocean on all sides while the vessel itself is submerged and invisible.

It has fins for diving and steering, and its vitality is furnished by steam and electricity.

The boat is practically the Nautilus of Jules Verne reduced from dream to reality. It is cigar shaped, pointed at both ends; 80 feet long, 11 feet in diameter, and with a displacement of 118 tons when floating. Submerged it displaces 138 tons. Under ordinary circumstances it runs on the surface like an ordinary torpedo boat, with a speed of sixteen knots an hour. At will it can be lowered just enough to be under water, save for a turret of Harveyized nickel-steel, which is surmounted by a chimney. The armor of the turret is eight inches thick, and proof against rapid fire guns. The chimney contains a tube by means of which the air inside of the boat is kept fresh.

### Entirely Safe from Attack.

In this half submerged condition the boat is comparatively safe from any sort of attack. It offers so small a

face, so that only turret and chimney remain above the surface. The pilot is still able to continue his inspection of the warship through the window aforesaid. If the vessel comes near, and he thinks he is in danger from the big rifled guns, he touches another button on the switchboard, and in one minute by the watch the submarine craft is safe from all danger or pursuit, eighteen feet below the waves.

The instant the order is given a bit of mechanism is set in operation by which the chimney and air tube are telescopically withdrawn. Water flows into the empty compartments, and the horizontal rudders are inclined for diving. An indicator registers the depth, which is so regulated by an automatic device that the craft cannot descend below the safety limit. The steering is done by compass when under water. The interior of the submarine vessel is lighted by electricity, with incandescent lamps.

So long as the boat travels on the surface it is run by its triple expansion steam engines, which, small but powerful, actuate twin screws at the stern.

face, though itself sunk some fathoms deep, and invisible. The vessel does not need to rise above the waves in order that the pilot may perceive "where he is at." It comes up merely to within a few feet of the surface, and a long tube is elevated vertically out of the water. The tube contains a single arrangement of lenses and mirrors. The lower end of it descends into the steering room of the boat, where there is a pivoted circular table covered with a white cloth. The device is an application of the familiar camera lucida. By moving the pivot table this way and that the pilot can scan the surface of the ocean for miles around. Every sail, every ripple, is as clear to his eye as if he were on the deck of a ship in the open air above.

In her bow the boat has two torpedo tubes for the discharge of automatic torpedoes of the Whitehead or Howell variety. She carries five of these torpedoes, which are projected by compressed air. Such a torpedo is a hollow, cigar shaped receptacle, much like a fish, carrying in its front end 200 pounds of gun cotton. After being dis-

charged from the tube it runs itself, being driven by a screw, with compressed air for motive power. It may be shot with accuracy at a mark 200 yards away and it will run 1,000 yards or more, exploding on impact.

### Can Destroy Strongest Battleships.

Let one of these fearful projectiles strike the strongest battleship, and the proud vessel of steel and iron, a floating mass of machinery that has cost \$4,000,000 to construct, is transformed in a moment into an iron coffin, carrying officers and crew to the bottom. Having delivered the fatal blow, the submarine boat glides away, to come up presently near the surface, and with the aid of her camera lucida to look around upon the scene of the destruction she has caused—herself at the same time invisible and safe from pursuit. Such a craft as the Holland boat would never try to attach a torpedo to the bottom of a ship. She picks out a vessel for attack and makes for her, occasionally coming near the surface just long enough to permit her commander to make sure of his course.

The Holland boat is able to keep at sea in bad weather. Its radius of action, traveling on the surface, is 1,000 miles; submerged, it can go sixty miles. Its speed under water is eight knots and it can be perfectly controlled. Special devices provide against every conceivable accident. In case it is desired to check the downward movement of the boat quickly, a touch on a button connects a compartment of water at the bow with a tank of compressed air. The expanding air drives the water out of the compartment, thus lightening the boat. If the submarine vessel gets stuck in the mud at the bottom, or for some other reason is not able to rise, officers and crew will put on diving suits and escape through a hatchway.

The boat is to cost \$150,000. If it proves a success, two others are to be built. This one, Mr. Holland says, is not as big as it ought to be, but its size was limited by the appropriation. As soon as it is finished, it will be taken for a trial trip down the Chesapeake.

### NICKNAMES OF PRESIDENTS

All of Them Were Known by Pseudonyms Indicative of Character

Washington was "Father of His Country," "American Fabius," the "Cincinnatus of the West," "The Atlas of America," "Lovely Georgius," "Flower of the Forest," "Deliverer of America," "Stepfather of His Country" and "Savior of His Country." Adams was the "Colossus of Independence," Jefferson was the "Sage of Monticello" and "Long Tom" Madison was "The Father of the Constitution." Monroe was the "Last Cooked Hat" and John Quincy Adams the "Old Man Eloquent."

Jackson was, of course, "Old Hickory," "Big Knife and Sharp Knife," the "Hero of New Orleans," "Gin'ral" and "Old Hero." Van Buren was the "Little Magician," the "Wizard of Kinderhook," "Follower in the Footsteps," "Whiskey Van," "King Martin the First," "Sweet Little Fellow," "Political Grimaldian" and "Weasel." W. H. Harrison was "Tippecanoe," "Old Tip" and the "Washington of the West." Tyler was "Young Hickory" and "Accidental President." Polk also was "Young Hickory," the sobriquet being used to resurrect the Jacksonian element. Taylor was "Old Rough and Ready," "Old Buena Vista" and "Old Zach." Fillmore was the "American Louis Philippe," Pierce was "Purse," Buchanan was "Old Public Functionary" and "Bachelor President" and "Old Buck." We have now reached Lincoln, the "Rail Splitter," "Honest Old Abe," "Uncle Abe," "Massa Linkum," "Father Abraham" and the "Sectional President," the last name being given by the southerners who maintained that he represented the north and not the whole people. Then comes Johnson—"Sir Veto." Grant was "Unconditional Surrender," "Old Three Stars," "Hero of Appomattox" and the "American Caesar." Hayes was the "President de Facto," a name given him by the defeated democrats. Garfield was the "Martyr President," Arthur was "Our Cret" and the "First Gentleman in the Land." Cleveland is the "Man of Destiny," "Grover," and "Stuffed Prophet." Harrison is "Backbone Ben" and "Grandfather's Hat."

### Louis Agassiz.

The early years of Agassiz read like a fairy tale of incredible achievement. His bent toward natural science showed itself almost in infancy and grew with his growth. At fourteen we find him sighing for a list of unattainable books—D'Anville, Ritter, and Italian dictionary, a Strabo in Greek, Manarot and Thiersch; and also the works of Malte-Brun and Seyfert. Failing to get these he copied whole volumes with the assistance of his brother, among others Lamarek's Animaux sans Vertebres. His parents, who had destined him to a commercial career, were with difficulty induced to consent to his studying medicine. At twenty-three he was not only a doctor of medicine, but of philosophy as well, and the author of a work on Brazilian fishes, which won for him a name among the scientists of Europe and the personal intimacy of Cuvier and Humboldt. At twenty-five he began his career as a lecturer and instructor, and at once demonstrated that extraordinary ability as a teacher and that gift of inspiring enthusiasm in his subject which were such marked characteristics of his later years. In 1848 he made his first visit to America, and two years later accepted that professorship at Harvard which determined the work of his remaining life.

Tip-toe walking symbolizes surprise, curiosity, discretion or mystery.

### IS A NEW BOCCACCIO.

GABRIEL D'ANNUNZIO HAS STANTLED LITERALISTS.

Hailed in France as One of the Greatest Word Picture Makers of the Times—His "Triumph of Death" and Other "Realisms."



GABRIEL D'ANNUNZIO is the name of the new Boccaccio that has amazed Italy with his fiery poems and novels of late and who is pronounced by certain French critics to have established the Italian renaissance of letters.

D'Annunzio was born near Pescara, a pretty village on the Adriatic. At fifteen, while he was studying at Prato, he published a volume of poems of such a nature as to draw to the author the attention of the authorities. He found himself suddenly famous, and, flattered by his success, plunged into a bath of dissipation out of which he came with a new and wider philosophy of life and language. The three novels which sustain D'Annunzio's reputation as a writer are "Placere," published in 1889, "L'Innocenti" (1892), and "Trionfo della Morte" (The Triumph of Death), which M. de Vogue, in a critical essay in the Revue des Deux Mondes, says has the right to be considered one of the masterpieces of the times. The Italian author is unknown generally except to a few French readers. An English translation of "Trionfo della Morte" is now in the press and may go far toward acquainting English readers with the



GABRIEL D'ANNUNZIO.

style, sentiment, impressions and gifts of D'Annunzio. The Italian seems to have little to commend except the superb, and to some rather offensive, egotism of the school that delights in laying bare the personal weaknesses of its individual writers. D'Annunzio has a clear title to a niche in this gallery, for he evidently believes that his passions are more interesting than those of his neighbors. Of course the French analysts regard him with favor. One phase of his work that commends him to the inscrutable French moderns is his love of describing commonplace filth and dubbing the doing of it "realism."

### Nansen's Ancestry.

It is not generally known that Fridtjof Nansen comes of an old Danish family, which left its mark on the history of Denmark before his branch of it migrated to Norway 100 years ago. He is directly descended from Hans Nansen, who was burgomaster of Copenhagen in 1660, and head of the civic forces during the siege of that city by the Swedes. In E. C. Otte's "Scandinavian History" we read: "When the nobles refused to give anything to defray the expenses of the siege, the town council of Copenhagen, headed by their burgomaster, Hans Nansen, made an appeal to the king for the curtailment of the privileges of the nobles. The clergy, under the guidance of the learned and ambitious court preacher, Bishop Svane, seconded their proposals. . . . While these motions were being made within the hall of assembly the gates of the city were closed by the order of Hans Nansen, and a strong civic guard drawn around the doors of the building. The nobles, taken by surprise, gave up their resistance to the payment of the taxes demanded of them, but when Nansen and Svane next proposed to make the crown hereditary in the descendants of the king, whether male or female, they opposed the motion with strong and bitter expressions of dissent. The important measure was, however, passed . . . and on Oct. 18, 1660, Frederick III. received the homage of the several orders of the state as hereditary king of Denmark." All through this crisis Hans Nansen distinguished himself, not only as a politician, but as a citizen-soldier. It is interesting to note, too, that as a young man he made what were then some highly adventurous Arctic voyages, and explored the shores of the White Sea. On his mother's side Nansen is descended from the Counts of Wedel-Jarlsberg, a family of Pomeranian origin, which settled in Denmark about the time of the Thirty Years' War.

### Dwarf Orange Tree.

There is an orange tree at Muskegon, Mich., that is making a record in that northern clime. The tree is about fourteen inches high and on the branches are twenty-eight miniature oranges and blossoms in various stages of development and one fully developed orange. The latter is about the size of an ordinary hen's egg, but round. The tree is planted in a large tin can filled with earth and is treated as a house plant.—Detroit Tribune.

### RESPECTABLE RIDERS.

It is Just as Well to Talk Civilly as Not to Farmers.

"Hello, old gentleman! Are we on the right road to Newburg, and what's the name of this place?" called out one of two wheelmen who, while spinning along a country road, had halted beside a corn field in which an old man was plowing. The old man thus addressed "whoa'd" his mule, wrapped the reins about the plow handle and began fairly tumbling down the hill between the rows of corn.

"Don't bother to come; we can hear," expostulated the cyclist, but the elderly plowman only increased his speed and finally struck the road.

"I wanted to take a look at you," he panted, leaning against the stone wall; "you're the most respectable soundin' feller I've seen since sunrise; been tryin' to plow this here corn patch pretty nigh all day, and ain't done much more'n tell a lot o' chaps on them wheel machines how to git to places. Kind o' thought might as well make a sign post o' myself and stand round here somers p'intin' up the road. Wouldn't mind so much," he continued, balancing his hat on his left ear while he mopped his countenance, "if some o' them city houseplants didn't think themselves so tarnation smart! You spoke civil like, and called me 'gentleman' just now, and I'm willin' to tell you all I kin, but when a passel of upstarts comes whizzin' 'long a-ringin' their bells at nothin' but rabbit tracks, with legs on 'em that looks as if they had been fired at by that new-fangled X-Y-Z sharpshooter, and calls me Deacon Hayseed, Poppy Grass and Daddy Corn Cob, it's not agreein' with me, and they finds out it ain't."

"I asks a feller this mornin' who he thought he was talkin' to, and he said, 'a modern Cincinnati,' and then he winked at another feller. Now, I likes to be winked at just as much as anybody, and I told that feller that perhaps he was a modern New Yorkus and owned the earth, and was ridin' 'round to boss the job, but I'd be blamed if he didn't look just like the greenest, durndest grasshopper I'd ever seen a-straddle one o' them patent go-arounds."

"We're scorin' in," says one. "Glad of it," says I, "fur maybe you'll be needin' the practice later on." I talks respectable to me, and Newburg's straight ahead then to the right every time and the name o' this place is Claudius Smith's Turnpike. If you'll stop at the house, round the curve yonder, the folks'll give you some buttermilk, fresh churned—city livers like buttermilk." And the old man climbed back to the plow, where a lot of horse flies were laughing at the way the mule was trying to kick them and couldn't.—St. Louis Post-Dispatch.

### GRAY IN THE RANKS.

Emily Morrell Wood, California's Oldest Woman Suffragist.

Mrs. Emily Morrell Wood is the oldest woman suffragist woman in California. She hopes to live long enough to be able to cast her first vote. It is probable that universal suffrage will win in the golden state. Mrs. Wood is a native of New York and is upward of 86 years old. She went to California in 1859 with her husband in the bark Palmetto, of which he was part owner. The climate suited him so nicely that he decided to make California his home. Mrs. Wood has lived in San Francisco ever since. She was a schoolmate of Elizabeth Cady Stanton. Her father and the father of Mrs. Stanton were judges on the same bench. Some years ago Mrs. Wood became afflicted with cataract and was totally blind for four years. A surgical operation was performed and her sight was restored completely. She is a great reader and very fond of needlework. Her late husband was a partner of John Lorimer Graham, the famous New York barrister. She is one of the



EMILY M. WOOD.

Anneke Jans heir. Her great grandfather was married to Rachel, who was the granddaughter of Anneke Jans. The old lady's memory of matters long since past is perfect, and her health is remarkably sound for one of her years.

### Miss Helen Gladstone.

Helen Gladstone, the daughter of the great statesman, is thought to resemble her father in appearance, and also possesses a large degree of his remarkable vitality. When graduating at Newham she invariably kept her table in the best of spirits by her amusing stories and witty repartees. For ordinary society conventions she shows little respect, and is quite indifferent as to dress, appearing at all sorts of functions in plain, sensible costumes. She is a universal favorite among her friends.

### Entitled to Consideration.

"My misguided friend," said the fat man with the puffs under the eyes, "I will admit that I am a capitalist. That part of your assertion shall go unchallenged. But when you say that I am not a producer you are wrong. I have been backing a comic opera company for two months."