2979

THE NEW LADY OF THE NAVY.

The Holland Submarine Boat Has at Last Been Adopted by the Government and Will Soon be Ready to do Work Underneath the Water.

The Holland submarine boat has passed inspection as a destroyer, after government tests, and is now giving a final exhibition on the Potomac opposite Washington. The United States Government has practically decided to accept the boat and the Holland will be the new lady of the navy, eccentric, yet very fascinating.

The new lady is also very powerful. This death-dealing bit of animate steel can put a quietus on the modern ironclad, just as Ericsson's Monitor tolled the knell of the Merrimac, and of all other battle-ships then known. It can sail under water like a great whale, and while down in the depths of the sea can discharge its dynamite guns with the same deadly effect as if it rode on the surface.

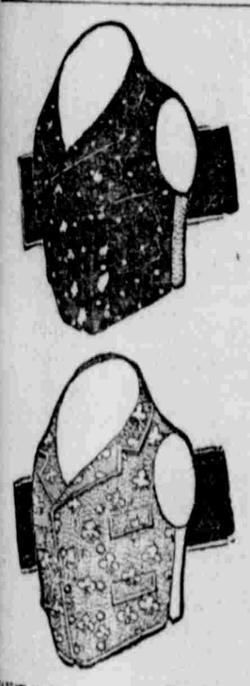
It contains three pieces of ordnance, two of which were invented by Mr. Holland himself. In the bow of the boat is a torpedo tube for the regulation Whitehead torpedo used in the navy. Above and directly in line with the Whitehead tube, but pointing up at a higher angle, is the dynamite gun. In the stern of the boat is a tube designed to discharge a submarine projectile with great force at the hull of a war ship.

Mr. Holland built a gun that would throw an 80-pound projectile, backing it up with a powder charge sufficient to carry it 100 yards under water. The gun was placed in the stern of the submarine boat, pointing aft, for the reason that it is easier to discharge a torpedo and keep the boat running in the same direction, than it is to expel the torpedo from the bow and then back off.

To sink a warship with a submarine projectile, the Holland would submerge at a safe distance from the warship, proceeding cautiously at a depth of from thirty to forty feet from the surface. The pilot in the conning tower of the Holland could tell by the sudden darkening of the water around him when the submarine boat was directly under the battle-ship. The order would be given to slacken speed, water would be pumped out of the stern water-bottom compartments to tilt the gun up into range, and the executive officer would complete the electric circuit of the igniting fuse. There would be a sudden bounding forward of the submarine boat, as it recoiled from the discharge, followed by a mad swirl of water in the wake of the projectile. Then would come a stifled report and a series of violent vibrations, telling that the gun had not missed its mark, and that the battle-ship had gone to the bottom.

The aerial projectile tube is the most powerful of the three guns mounted by the submarine boat. It consists of two parallel tubes joined at the breech end, but the smaller is put the powder charge. Between the powder and the projectile is an intervening air space which takes up the force of the explosion by cushioning, preventing the direct force of the explosion from straining the metal of the gun.

To fire the aerial projectile the submarine boat comes to the surface, flooding her after compartments to give the desired upward tilt at the bows. The recoil drives her back under water stern foremost, where remaining tanks are flooded and the boat awaits another opportunity to rise and deliver a shot. The projectile used in the Holland aerial gun is eight inches in diameter and 22 feet long. Its cartridges contain 100 pounds of dynamite or blasting gelatine, exploding by either a time fuse or



FANCY VESTS TO BE WORN WITH DARK WINTER SUITS.

contact. The force of an explosive charge containing this quantity of blasting gelatine is so great that human life cannot exist within 150 yards of where the explosion takes place.

The Holland is 53 feet long and 10 feet 2 inches in diameter at the widest part of the hull. She carries a crew of seven men; has no galley, no berths, and no living accommodations. Inside she is a marvel of mechanical ingenuity, every inch of available space being taken up by some piece of intricate mechanism. The hull is built in the strongest possible manner. It is made of plates of half-inch milled steel bolted over frames in longitudinal sections, and is braced to resist the crushing power of water. When awash the displacement is 65 tons; the addition of 75 tons of water in the compartments takes the boat 50 feet, and she cannot go below that depth.

The lady of the navy, when she is submerged, breathes through an air supply contained in 8 cylindrical reservoirs, each tube holding an equivalent of 30 cubic feet, at a pressure of 2,000 pounds to the square inch. The reservoirs are placed along the sides of the boat, and the air passes from them into two intermediate cylinders, where it is reduced to 50 feet and 10 pounds pressure respectively, before it is given vent into the interior of the boat for breathing purposes.

In the forward part of the boat is a series of tanks having a capacity of 5 tons of gasolene, 40 barrels. As the gasolene is used by the engines, its weight is automatically displaced by an equal weight of water, in order that the boat may not become lighter, and rise to the surface when submerged. The loss in weight caused by the discharge of a torpedo, which would make the boat heavier at one end than the other, is also provided for; and the weight of a man walking from one end of the boat to the other is also automatically compensated. So skilfully has everything about this nautical marvel been planned that not one item of her construction that could lead to the detection of her presence by an enemy has been overlooked. The Holland will have to come to the surface sometimes to renew her air supply, and when she does so, her gasolene engine will be brought into play.

WORKS QUIETLY.

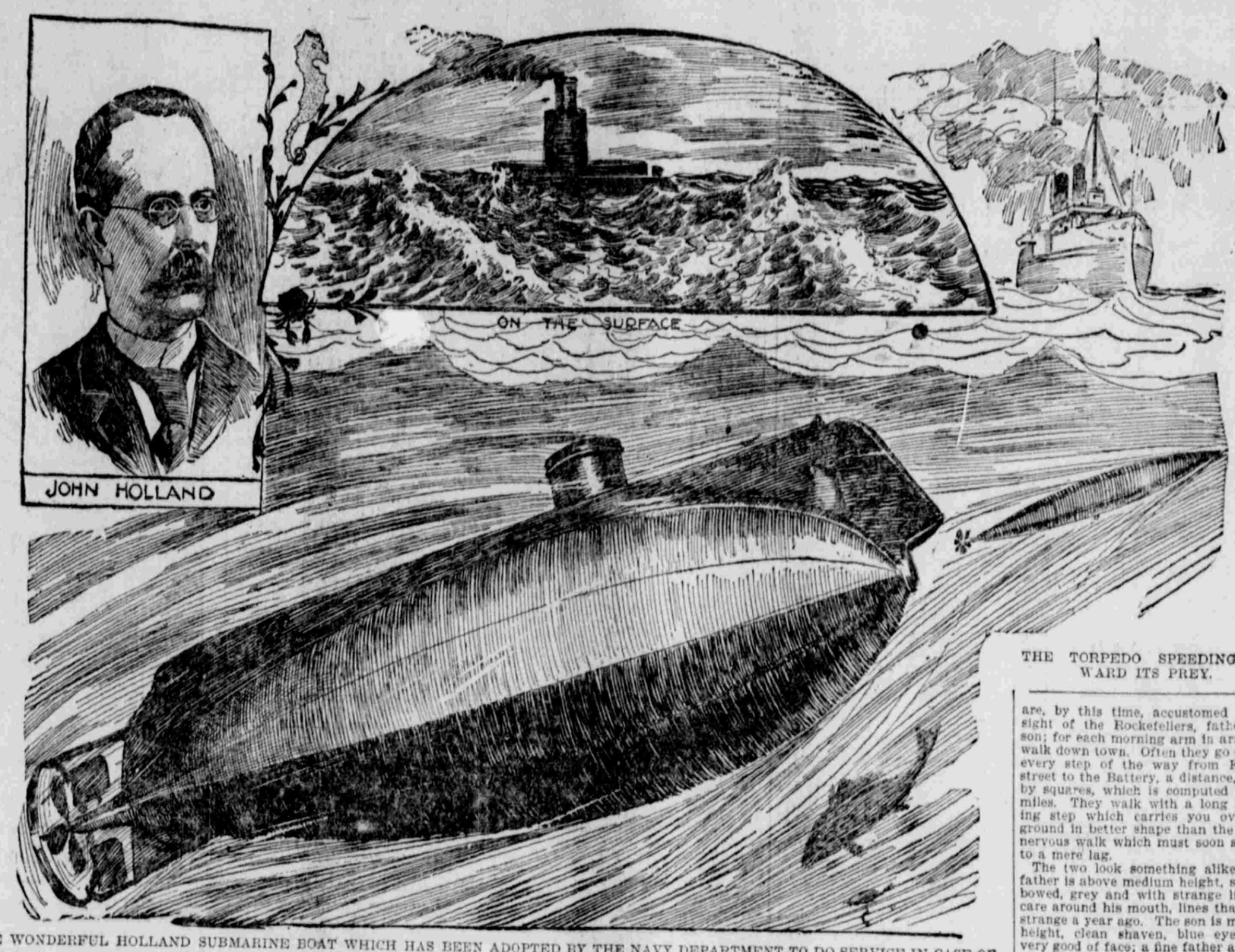
The puffing of an ordinary naphtha launch can be heard anywhere from one to three miles away. To avert this the exhaust from the gas engine has been placed under water, where its sound is completely smothered. To prevent the propeller from being fouled a metal ring has been suspended on steel supports from the stern; and that the risk from being pierced by a rapid-fire projectile may be reduced to a minimum, the boat has been crowned with a steel superstructure.

The Holland has a cruising radius of 2,000 miles. She could take aboard 40 barrels of oil and go two-thirds of the distance across the Atlantic. Fitted with sleeping accommodations and cooking apparatus on a small scale, the boat could go on an independent cruise for two months. As an auxiliary torpedo boat her value would be inestimable. She could approach a harbor or a ship to within a mile without being seen, and could sink under water at that point to continue her deadly work, while a torpedo boat would be sighted by her smoke ten miles away.

For the submerged condition motive power is supplied by 60 cells of storage battery. The current is transmitted to a 50-horse power electric motor, acting direct on a 4-inch shaft. On the surface the current is cut out and a gas engine of 150-horse power is used. To charge the storage batteries the motor is converted into a dynamo and connected with the gas engine, the after section of the propeller shaft being thrown out of gear. Converted into a motor again, the main dynamo will yield an energy of 50-horse power for six hours, or 120-horse power for one hour.

In addition to the main motor there are numerous auxiliary motors. One of these is for pumping out the fumes of sulphuric acid liberated from the hydrogen in the process of charging the storage batteries. A second motor pumps the foul air out of the hold when the atmosphere has become vitiated by constant breathing. Still a third motor of 10-horse power compresses the air into the reservoirs, when the vital machine comes to the surface to breathe.

AFTER ALL THE COUNTRIES OF THE WORLD HAVE BIDDEN FOR THIS WONDERFUL LITTLE BOAT IT HAS, AT LENGTH, BEEN PURCHASED BY THIS COUNTRY TO DO REGULAR DUTY IN THE NAVY.



THE WONDERFUL HOLLAND SUBMARINE BOAT WHICH HAS BEEN ADOPTED BY THE NAVY DEPARTMENT TO DO SERVICE IN CASE OF FUTURE WARS WITH THE UNITED STATES.

THE TORPEDO SPEEDING TOWARD ITS PREY.

CHRISTMAS STYLES FOR MEN.

The Newest in Vests and Suitings as Seen in London and New York During the Early Winter.

Winter fashions fulfill the promise of fall, which was that bright colors should enliven the sombreness of the winter attire which custom has given the well dressed man. Never in the history of men's fashions, since the days of knee breeches and powdered wigs, have men dressed with as much cheerfulness as this season. Bright ties are worn all day, changing to cream and white at night. Gloves of brilliant hues, all the way from light grey to the brightest red, are seen, and in vests the art of the designer is allowed to run riot.

The vest is an indication of the well dressed man. Few vests are worn to match the coat. The stamped velvet is sought for colder days; the Persian silk cloths are used for everyday wear; and for evening there is the vest of white pique which will be worn all winter. The white satin vest figured with fleur de lis is shown, and many another design; and then there is the vast army of stripes and checks in cloth which are sold at such reasonable prices that all can buy.

Vests can not wear out, but they can soil. They can also be cleaned so that it is economy, in the long run, to buy as many vests as you want, wearing one until it grows familiar, then laying it aside in favor of a newer one.

So great has this fancy for the odd vest grown in New York that the best tailors are making suits consisting of coat and trousers without the vest; and on a suit costing, say about $25, they allow $3 or $4 for the vest which the customer does not want, preferring to wear an odd one. This custom of "mixing up" a suit is growing.

The Oxford cloths are immensely fashionable. The term now applies to all grey mixed with white, but the darker the more fashionable is the cloth. Oxford coats and vests are worn with striped trousers, Oxford coats are worn with figured vests and grey trousers; and then there is the entire suit of Oxford, which is also fashionable.

TOP COATS.

The very latest wrinkle from London, the seat of men's fashions, even as Paris is the centre of women's fashions, is the making of a top coat or overcoat to match the undercoat. Take a winter suit of grey mixed goods. It is made with cutaway coat and trousers to match, and worn with a fancy vest. To wear over it there is an overcoat of heavy grey goods, exactly matching the suit. This looks very rich, and while it is not any more expensive, conveys the impression of being so.

Top coats are made in grey, brown, white Kersey and black. The black, in smooth goods with silk finish, is very fashionable with velvet collar but without cuffs. Some of the most elegant overcoats are of shining black melton, lined with the most brilliant satin of finest texture, the sort that is warranted not to wear out in a season.

The white melton coat is extremely modish, but it is expensive. Owing to the peculiar color of the cloth it can not be produced in cheap grades and it is possible to pay as high as $75 for a coat. In very cold cities, such as Montreal and other places along the border of the United States and Canada, they line the coat sleeves in such a way that there is a shirring of satin around the hand, protecting the wrists from the wind. This is the custom with tailors who make coachmen's coats; and it is being somewhat copied by the swells of New York, who find it very comfortable.

Suede is greatly worn for gloves. It wears well and is neat on the hand, neater than dogskin, but it is not so warm. Black suede is the glove of the minute, as the Prince of Wales happens to be wearing it. The backs of the gloves are stitched in black silk, giving quite a sombreness to the hand. The castor colors hold their own and threaten to drive out the browns and dark reds, though the bright reds will still be seen considerably. Where warmth is a desideratum, there are dogskins lined with a soft fleece. Gloves are now cut in the between sizes so that a man need not take a wild jump from a glove that pinches him to one that is like a mitten. He can buy a between size.

THE NEW TROUSERS.

Trousers are cut larger in the leg and the threatened tight leg has disappeared for the time being. They are generous in their proportions and the fashionable trouser color is grey. Plain grey, the Admiral Dewey grey, is seen. It is on the pearl shading toward blue. But for business trousers there are many variations of grey which are in vogue. One is the grey plaid which is formed by the crossing and recrossing of many shades of grey in a cloth that is slightly rough. It has not the smooth ribbed finish of the trouserings with which all are familiar. Yet with all the tendency toward plaids and checks there is always the striped design, running up and down the leg, and showing plainly through the checks.

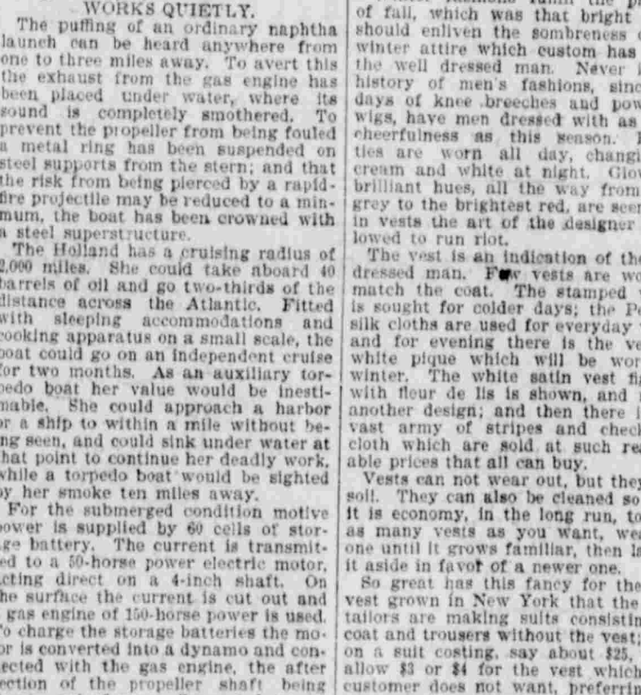
The man with one suit is fortunate this winter for he can vary it. He can, as the New York tailors tell their customers, "mix it up," and still preserve his style. But he must not let it get frayed. There is no possibility for the trouser leg that is worn beyond repair; but it may be said in this connection that, with the aid of a stitch in time and the glue, used by tailors, much can be done with the worn heel.

All the new suspenders are rather short, indicating that trousers are to be worn higher. That criterion of fashion, who must be mentioned again, the Prince of Wales, wears his trousers so short that they show his entire boot heel, which is always highly polished; and Admiral Dewey, who is revelling in the possession of a trousseau bought newly on land, also wears his trousers short. They show the heel and a bit of the back of the shoe, just a glimpse of the leather above the heel being seen to shine, as the Admiral walks. This is neat and preserves the trousers.

The frock coat is the most fashionable coat of the year, no question about it, declare the tailors. They are making up the frock coat and vest to wear with different trousers, and New York swells are wearing these "suits" for very nice occasions.

You may find men's clothing a little high this winter, but the factories have raised the prices and, of course, the dealers must do likewise.

The columns of this newspaper are very good guides to purchasers. You can read, on another page, exactly where to buy your winter suit and how much it ought to cost you. You can also suit yourself with the styles and can decide where and at what expense you can get a suit like the one worn by the Prince of Wales, or where you can get a good up-to-date business suit. After you have read this, read our advertisements for the men's clothing stores.



THE PRINCE OF WALES IS WEARING FANCY VESTS OF VELVET AND CLOTH WITH SUITS OF DARK GRAY AS WELL AS WITH THE FULL DRESS SUIT.

THE NEW MAN OF WALL STREET.

John D. Rockefeller, Jr., is a Church Worker, a Brilliant Addition to the Money World.

While all the talk about matrimony and millions is going on, there lives in New York a young man who could, as the flippant expression is, "buy and sell" the others, yet whose thoughts are far from the general trend of a rich young man's mind.

John D. Rockefeller, Jr., one of the richest people in the world, is living out his daily life in New York City so quietly that few ever hear of him. The world of society sees him not at all, if one accepts that curious circle of very learned persons with whom the Rockefellers have always identified themselves. Of matrimony John D. Rockefeller, Jr., thinks nothing, or if he has thoughts toward a fireside of his own, he breathes them not to his friends.

A great flutter was produced in Wall Street the other day by the semi-official announcement that young Rockefeller had gone into leather and the sudden rise of that commodity three weeks ago was at once traced to the young man's door. He came out at the end of the day many times richer, and Wall Street gossipped again. Would his career be a meteoric one, similar to that of young Leiter; or would he work slowly but surely and steadily, gradually developing into another Sage, one who could succeed the Old Man of Wall Street?

are, by this time, accustomed to the sight of the Rockefellers, father and son; for each morning arm in arm they walk down town. Often they go on foot every step of the way from Fiftieth street to the Battery, a distance, taken by squares, which is computed at five miles. They walk with a long swinging step which carries you over the ground in better shape than the quick, nervous walk which must soon slacken to a mere lag.

The two look something alike. The father is above medium height, slightly bowed, grey and with strange lines of care around his mouth, lines that were strange a year ago. The son is medium height, clean shaven, blue eyed and very good of face; a fine father and son you would say!

When John D. Rockefeller, the elder, started out to do life he had no golden penny in his hand. He grew to be a capable bookkeeper and an honest one; and Mrs. Rockefeller belonged to the highly cultured, very intelligent, refined and pretty army of school teachers. Both knew many educated people in those early days in the West, but they had not much money.

Then came the oil opportunity. Oil was "struck" on a little property in which Mr. Rockefeller had an interest and while the others sold he held on with that dogged persistence which has characterized him ever since, with the same pertinacity which has descended to the son and marks him as a man of determination and character.

The story of the Rockefeller rise is one that reads like a fairy tale. They say that in future these rises to fortune in a decade will be impossible. But, when that story is told, just think of Barney Barnato—or of Cecil Rhodes—to select a man of the present, and of others of this day and generation who have made their money quickly by luck and judgment. Money chances, Mr. Rockefeller declares, will also be within the range of possibility for the fortunate.

John D. Rockefeller, Jr., was born when the family millions were beginning to pile up, and he has never known the taste of aught than luxury; nevertheless he is very careful of his money and modest in his tastes.

HIS SUNDAYS.

Sunday morning, after the busy week is past, and the family breakfast has been eaten, young Mr. Rockefeller accompanies his mother to Sunday school. They go to the Fifth Avenue Baptist Church, and there the young man of twenty-three takes his place in his mother's Sunday school class and listens to her teachings on the Bible.

It may be said for these teachings that they partake more of the nature of theological utterances; for Mrs. Rockefeller is acknowledged to be one of the first Bible students of the world.

JOHN D. ROCKEFELLER, JR., THE NEW LIGHT OF WALL STREET, IS ONE OF THE RICHEST YOUNG MEN IN AMERICA.

When John D. Rockefeller, Jr., came to New York, a small member of his father's family, he was a studious school boy whose serious face and eye glasses singled him out as a lad not like other lads. He distinguished himself by being quieter than his sisters, and by going regularly to Sunday School. Daytimes he attended the private school which Mrs. Rockefeller fitted up for her three children in their home overlooking Fifth Avenue. After school he rode horseback alone; evenings he played second violin to his father's first; and when his mother was tired at the piano he took her place.

People who live along Fifth Avenue Her sacred library is large and well selected.

There is a history connected with this Bible class. Mrs. Rockefeller has taught it for ten years or more. Her son has grown to manhood in the class. Boys have grown up, been helped and gone out into the world, better men financially and morally. No boy in Mrs. Rockefeller's Bible class ever stays out of a job very long. The son helps them, if his mother does not, and his generosity is the cause of a great deal of good-natured badinage.

John D. Rockefeller, Jr., is a very interesting young man, and Wall Street is proud of its new light.

HOLLAND DESCRIBES HIS OWN BOAT.

He Says it can do all and More Than he has Claimed for it.

I have built six submarine boats. The first, in 1877, was 14 feet long, built for private purposes. The second, constructed in 1879, was 32 feet long and 6 feet in diameter. Boat number three was a working model, 16½ feet long by 30 inches in diameter. Number four was the Zalinski boat, 40 by 8 feet. Number five is 85 by 11½ feet, of 168 tons displacement.

Number six, the present boat, is 53 feet long by 10 feet 3 inches in diameter. Her displacement is 75 tons.

The first and greatest desideratum in a submarine boat is simplicity. Each man has one thing to do and nothing else. The crew of this boat consist of one pilot, one "operator" or assistant pilot, one electrician, one engineer and two torpedo experts. Six men can run this boat under any fleet of war ships, in any harbor, attack anything on land or sea, and at the same time disappear after each discharge of guns and always be out of reach of the enemy's fire. There is very much less danger in a submarine boat of this kind than on any surface boat. If these boats become an established feature of marine and naval service, they will be used for carrying passengers through the rough sea between Dover and Calais. They are absolutely safe, and free from motion. Neither fogs nor storms can have any effect on them. There will be no collisions, for they sail far below the deepest ocean liners. The passage across the English Channel can be made along the bottom of the sea in from one to two hours. With compressed air in steel tubes, such as we use in this boat, the ventilation will be perfect. These tubes stand a pressure of 5,000 pounds to the square inch.

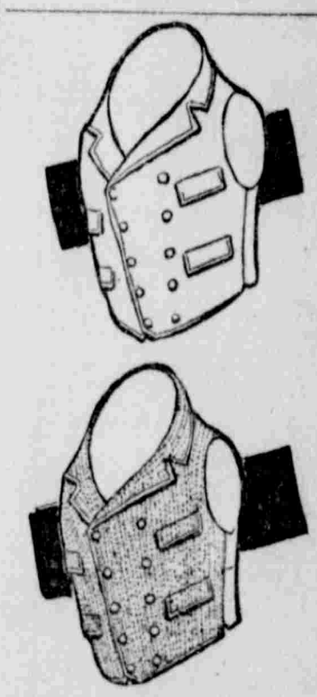
When our boat goes to sea for business, she will carry one aerial torpedo thrower, one submarine gun, one Whitehead expulsion tube. Even when in action there will be no great inconvenience from recoil or the explosion. The indicators will show exactly where we are. If we approach land, a little bell rings the warning. It will be exactly like riding in a well-lighted, comfortably seated railway car through a tunnel.

The difference between a boat of this type and an ordinary torpedo boat, which sails on the surface, is beyond words to express. In rough weather, life on a torpedo boat is horrible. After a rough trip the crew have to be sent to a hospital for treatment. In a gale such a boat could not live. We are indifferent to storms. We can accompany a fleet of the biggest war ships in the wildest sea. Besides the quarters for the crew, we have a cabin 15 x 10 feet for the accommodation of experts or visitors who may accompany us. The temperature in the engine-rooms of rams and torpedo boats is almost insupportable. We shall be perfectly cool, having the temperature of the sea surrounding the boat. While ships are covered with ice, we, deep in the sea, will be as comfortable as by our firesides at home. The boat will not be in danger of sinking, as she is always sunk. She cannot leak, because her double bottom is always filled with water for ballast.

In a bombardment I would use the aerial torpedo guns to sink the warship, then practise on the forts at my leisure. The power of these weapons is enormous. The muzzle energy of the submarine gun is 750 foot tons, enough to force projectiles through any obstruction.

In using the torpedo thrower, the recoil from the gun pushes the boat back into the water out of sight, so that she cannot be located by the enemy. Twenty-one tons of electrical storage batteries in the bottom of the boat, always keep her right side up, the centre of gravity being always under the centre of buoyancy. In our fifty-three foot boat we carry enough gasolene fuel in tanks surrounded by sea water to make a 2,000-mile voyage. The telescopic turret can be projected three feet above water in from one to two seconds. The pilot inside can thus obtain a view of his surroundings. When that is impossible, the camera-obscura thrust above the water will throw as picture of the harbor or sea for miles around—throw it down a tube on a sheet of white paper giving a photographic view of all that is going on above the sea.

JOHN P. HOLLAND.



THE WASH VEST OF PIQUE AND CHEVIOT WILL BE WORN ALL WINTER.

RUSSIA'S CORONATION OIL.

The oil used at the coronation of Russia's Czars is not of an ordinary kind. It is prepared with elaborate ceremony. It is made only once in three years, and is used only for three purposes—namely, the baptism of royal babes, the crowning of the Czar and the consecration of the Metropolitan. It is called chrism oil, or myro, and is always made at Moscow or Kief.

The oil is kept boiling for three days and nights without intermission, being stirred continually with silver ladles in the hands of priests. After this the oil is put into two silver caldrons and placed upon a porcelain stove, where it is stirred by six deacons, arrayed in black and silver vestments.

This oil is supposed to possess miraculous curative powers, and great crowds of people bring bits of cotton or wool to dip into the holy mixture. The vases filled with the oil are carried in great state to the Cathedral of the Assumption, where mass is said by the Metropolitan.

THE BOER ARTILLERY GOING INTO ACTION AT LADYSMITH; THE BOERS FIGHT UPON THE LATEST EUROPEAN METHODS AND ENTER INTO AN ENGAGEMENT USING THE SAME TACTICS AS THE BRITISH.