

so far as to fit up gun boats with "launching tubes," from which to discharge the "Whitehead" torpedo. With what success is not known, as all the experiments with that weapon are conducted with the greatest secrecy. But until some equally powerful, but less dangerous explosives than dynamite, or nitro glycerine and gun cotton are discovered, there is not much probability of these weapons forming part in the equipment of a regular fighting vessel of war.

Finally, let us cast a glance at the expensive system by which Great Britain hopes to preserve her marine supremacy, and we shall find that their latest armored ship, their "ne plus ultra" of naval construction, the *Devastation*, with even thirteen or fourteen inch plating, can be pierced by the 12 inch steel shell, which, once within her turret or case mate, and exploding with the force belonging to a bursting charge of 30 lbs. of rifled powder, would produce the most disastrous effects amongst the gun's crews, while the explosion of any torpedo carrying fifty pounds of dynamite, under her bottom, would so shatter it as either to sink the vessel or to render her in a great degree unserviceable. Now the probable cost of a vessel of this description would be some £600,000 (about \$3,000,000), and for this same amount of money there could be built, at the very least, three powerful wooden frigates or sloops, with much finer lines, smaller in dimensions (not having to support the great weight of armor), and yet carrying engines of the same horse power, and consequently capable of increased speed, and also of being armed with the 12 inch guns, which are now found to pierce easily this, formerly impenetrable class of vessel. With the increased speed of these vessels would be joined their ability to seek or to avoid a contest, to choose their position, which, in attacking an iron clad, would, of course, be sufficiently near to enable them to penetrate the plates of the enemy, and explode their shells invariably in the interior of his casemate, while the rifled shells of the iron clad would, in all probability, pass through the wooden sides of her antagonist, as through pasteboard, the constant change of distance between the two ships rendering any certain destructive arrangement of her fuzes almost impossible.

The addition of powerful rams to the bows of these vessels would enable two of them to cope with the iron clad, with a very prospect of success; and we should thus have the anomaly of one half the expenditure in money producing greater effect than that of the whole. Notwithstanding all that can be said in favor of the economy and other probable advantages of the wooden constructions referred to, it cannot be denied that in combats between single ships, the armor plated vessel will have the advantage over her wooden adversary, consequent upon the greater number of effective shots which she will be able to score at all angles of impact; while those of the wooden ship would require to be planted at or very near right angles, in order to ensure penetration and consequent destructive effect; and is probably from this point of view that the British Admiralty consider it necessary to continue construction of this class of vessel in its strongest form, in order to continue the naval supremacy of its nation, and its consequent greatness in any struggle which may arise with a power provided with armored vessels. The United States, on the other hand, possessing no outlying provinces, and its strength not being de-

pendent upon its naval power, can very well dispense with such vessels; but, in their stead, our Navy should consist in a large degree of the effective class of vessels already mentioned, whose power should be such that an injudicious attack on one of them would be a very serious matter even for an iron clad. W. A. K.

BOYTON AT SEA.

The Cork, Ireland, correspondent of the *N. Y. Herald* gives the following description of Captain Boyton's adventure with his new ocean life preserver:—

"When it was announced in the city this morning that an American seaman had in the gale of Tuesday night jumped overboard from a transatlantic liner and, after swimming for seven hours, had landed on the Skibbereen coast, people, while quite prepared to give Americans credit for doing big things were yet unprepared for such a demand on their credulity as this. The thing, however, was done, and the hero of it was Captain Paul Boyton, of the New Jersey Lifeguards, Atlantic City. This gentleman, a professional diver of well known daring, left New York about a fortnight ago in the National Company's steamer *Queen*, taking with him a patent swimming costume. It was Captain Boyton's intention when from two to three hundred miles distant from New York to jump overboard and swim back, but the commander of the steamer was a man of little faith and vetoed the experiment. Captain Boyton had therefore to remain an involuntary passenger until the vessel approached the Irish coast on Tuesday evening, when the commander, having been repeatedly importuned, gave his permission. Captain Boyton drew on his India rubber air tight suit and inflated the air chambers, in his air tight sack he placed food for three days, a compass, a bull's eye lantern, some books (just to beguile the time on the water,) signal rockets and a United States flag. In his inside pocket he placed a mail which the passengers had given him to post, he strapped his bowie knife and axe to his side and grasping his paddle was lowered into the water, amid the cheers of the passengers, at half past nine p. m. It was a wild, dark night, he was close to Fastnet rock, with Cape Clear three miles from him, and Baltimore, toward which he intended to make, was in a direct line seven miles away. He lay on his back paddling vigorously, and now the lights of the vessel were lost in the night. In a quarter of an hour more his spirit almost quailed, when tossed high on the crest of a wave he could no longer see the coast line or any lights. The wind blew, the rain poured down and the tide set against him. He was drifting out to sea, and, to add to the awful loneliness of his situation, and to increase the dreadful peril, a violent gale commenced. That night for many hours no mailboat crossed the Irish channel, and great destruction was done on the coast. And through these awful hours of darkness this man was tossing about at the mercy of the waves some fifteen miles from land. The wind was so violent that he had to give over paddling, and with one hand to shade his face (the only part of his body exposed, from the cutting blast. Once his paddle was wrenched away by a heavy sea, but it fortunately came into his hand again. For several seconds a wave would completely submerge him, when he would shoot on to the crest and take breath before he again was hurled down a sloping

mass of water which seemed 100 feet to the bottom. As a result of this tossing he became seasick, a thing, he says, which never happened to him before. His indomitable spirit, however, conquered everything, and about one o'clock the wind began to blow directly onshore. His paddle was plied vigorously, and at three o'clock on Wednesday morning he perceived he was near breakers, and the rock-bound coast west of Skibbereen loomed up before him. His danger now was not less than it was during the height of the gale, for as a wave would raise him almost on a level with the cliff tops he could discern nothing but a threatening wall of rock. He made his way along parallel to the coast, and fortunately lighted upon almost the only safe landing place for miles round. He saw an opening in the cliffs and propelled himself cautiously towards it. While hesitatingly examining the entrance a sea struck him, carrying him on; another and another followed in quick succession, and, in an almost senseless state he was hurled high and dry upon the beach. It was then four o'clock in the morning, and he had been nearly seven hours on the water, traversing a distance of thirty miles. The apparatus had behaved admirably, and having divested himself of it he stood quite dry in his navy uniform, which he wore beneath. That having been done he let off one of his signal rockets without effect. It showed him, however, a narrow path in the rocks. Up this he clambered and got on to a mountain road, which brought him to the coast guard station. He was hospitably received there and discovered that the place he had landed at was Trefaska Bright, some miles east and south of Baltimore. During the morning he reached Skibbereen and posted the letters entrusted to him, and arrived in Cork on Wednesday night, where he is now the hero of the hour. On Monday he intends to swim out of Queenstown harbor some distance; that will be followed the week after by a little swim across the Straits of Dover, towed by a kite; and to cap all, on his return to the Straits he intends to carry out his original idea of jumping overboard at 250 miles from land and swimming to New York, or Long Island. After his achievements in the gale on Tuesday night these last named experiments, startling as they seem at first, can not be regarded as impossible."

An interesting experiment, says the *Portsmouth* (England) *Times*, will shortly be made in Portchester Lake in connection with submarine warfare, to which great attention is being paid at present. The object on which the experiment is to take place has recently been constructed in this yard. It consists of three blocks of timber, or rather of numerous planks bound together with iron bands to represent solid blocks, each between 20 and 30 feet in length. Between each there is an interval of three or four feet, but they are all connected by several coils of wire, twisted into one which runs through the centre of the whole and out at each end. The whole construction will be placed a few feet under water and moored at each end. Underneath gun cotton will be laid and exploded, the object being to ascertain the strain it will successfully resist. It is intended, we believe, to be placed across the mouths of harbors in time of war, to prevent an enemy's ships entering, and to the passage of which, it is believed, it would act as a formidable barrier.