

THE 40-KNOT TORPEDO.

United States Naval Officers Discuss Sinking of the Lusitania.

The German torpedo or torpedoes that destroyed the Lusitania were fired at a range of not more than 1,000 yards, and the torpedoes themselves probably traveled at a speed in excess of forty knots. The submarine or submarines from which the weapons were discharged were submerged not more than fifteen feet, and they had plenty of time to get the exact range before the torpedoes were discharged. Furthermore, the torpedoes were of the most modern and powerful type and of the highest possible speed.

That is the opinion of many of the officers of the torpedo flotillas now in the Hudson river, all of whom have closely followed the German submarine activities since the under-water war against belligerent and neutral commerce was started by the Germans several months ago.

The extreme range of a torpedo, it was explained by these officers, is about 4,000 yards; but the evidence to be had indicates that all of the German submarine work is being done at short range, perhaps less than 1,000 yards. At the less range the speed of the torpedo is greater and the aim correspondingly more accurate. At the 4,000-yard range the speed of a modern torpedo should be between 27 and 30 knots; at 2,000 yards about 32 knots, and at 2,000 yards between 33 and 36 knots. At less range the speed may vary from 35 to more than 40 knots.

One of the American officers stated that in Charles W. Domville-Pfle's book entitled "Submarine Engineering of Today," there is a chapter on "The Life

of a Torpedo," which describes, in understandable language and in a correct way these terrible missiles.

"A first-class battleship takes the best part of three years to build, and may cost anything from \$1,000,000 upwards," the author writes. "This ponderous ship of war can be sent to the bottom of the sea in but a few minutes if struck by a torpedo.

"The modern torpedo varies in length from fourteen to nineteen feet, and weighs up to half a ton. It has an extreme range of 4,000 yards. The blunt nose or 'war head,' as it is called, is the business end of the torpedo, and contains the dry and wet gunpowder and the fulminate of mercury necessary for the explosion.

"Behind the explosive head is the air chamber to hold the compressed air by which motive power is furnished. Then we come to the search chamber or brain of the weapon, which contains most marvelous mechanism for directing and controlling the machine. Next comes the engine room, and at the tail of the torpedo, the buoyance chamber.

"The moment a torpedo is used for practice a new phase of its life begins. Like a boy first going to school, a record is started of its conduct. It has already been given a distinctive number, and at the top of each record or 'history sheet,' as they are more often called, this will be entered. Below is entered the number of times it has been fired and any eccentricities which have been noticed during its progress thru the water. It is a curious fact that no two torpedoes have ever been constructed exactly similar. Each one is always found to have some little peculiarities when traveling through the wa-

ter. One will turn slightly to the left, another to the right, or sink in the water lower than is usual.

"Everyone of these little peculiarities indulged in by the torpedo is noted in the history sheet and referred to before the weapon is again fired. By this means all the slight defects can be allowed for and a much more accurate aim obtained. It is the duty of the torpedo lieutenant to make up all the 'history sheets' on a vessel, and he may be almost looked upon as a schoolmaster with a lot of small children to understand and manage. Sometimes but not often during trials a torpedo is lost. Perhaps days afterward the truant turns up, either washed ashore or towed in by some fishermen after having torn their nets to pieces.

"A small chamber in the torpedo carries compressed air weighing about nine stone. This helps to sink it to the required depth after it has entered the water. This air, escaping from the chamber, by means of a regulating valve, drives the engine at a high rate of speed, which is almost uniform throughout the trip from the tube to the target. The engines turn two screw propellers at the tail of torpedo. These revolve on the same axis, but in opposite directions, the object being to give stability to the weapon—a necessary thing inasmuch as it has no keel and would route it if it were driven by a single screw.

"The steering is effected by vertical rudders, which keep the torpedo in the required direction, while the proper depth in the water—usually from ten to fourteen feet—is maintained by horizontal rudders. The torpedo is kept submerged by means of the balance chamber, and is controlled in its steering by the wonderful instrument known as the gyroscope.

"So marvelous is its mechanism that in favorable circumstances the torpedo well aimed, may be depended upon to strike within a yard or two of the spot aimed at. Briefly described, the gyroscope is a rotating wheel which automatically controls the torpedo's course.

"The method of firing a torpedo is very much like that of discharging a gun. It is expelled from a torpedo tube by compressed air. Upon reaching the water the torpedo is driven by its screws in the required direction. The missile is guided by a very ingenious invention called a 'torpedo director.' This is a little brass instrument fitted with 'sights' like a gun. When the sights are aligned on the enemy the officer in charge presses a key, and electricity causes the discharge.

"Nearly every ship in the British navy is fitted with tubes and carries Whitehead torpedoes. There are two kinds of tubes, above-water and submerged. The latter are much safer to work with and have been found more effective, the above-water type being very liable to be struck just as a torpedo is being discharged."

American submarine officers say that while the Whitehead type of torpedo embodies the principal feature of all torpedoes fired from submarine tubes, it is possible that the Germans may be using a torpedo that in certain minor particulars may differ from the Whitehead. So far as is positively known, however, the German torpedo is similar in practically all essentials to those used in other navies, and of which the Whitehead is the best known and most used type.—New York Times.

If Such There Be, Go, Mark Him Well.

Breathes there a man with soul so dead, who never to himself has said: "That editor has quite a head, I'm glad I take his paper. He's got a raft of grit and sand, he prints the news of all the land, he boosts the town to beat the band and that's the proper caper. He soaks the grafters in the neck, he saves the Ship of State from wreck, he's Johnnie on the spot, by heck, when things are in a jumble. He writes the ads that bring the dough, he chases all our gloom and woe, he tells us all we want to know—and yet he is quite humble. He never gets a bit stuck up, he's worked since Hector was a pup to earn his daily bite and sup and have a little over. I know we owe him many plunks, so let us shame the other skunks and furnish him with kale in chunks, wherewith to live in clover."—E. F. McIntyre.

Maj. Gen. Moore has announced that E. M. Blythe, of Greenville, and H. B. Springs, of Georgetown, recently elected colonels of the First and Second regiments, respectively, have successfully passed the required examinations. Curan Alexander, a young white man of Pelzer, was found guilty of the murder of his wife in Anderson last week. Alexander in a fit of rage several months ago, cut his wife to death. He was recommended to the mercy of the court and sentenced to life imprisonment.

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An Episode Of the Big European War

By ESTHER VANDEVEER

Wilhelmina Bischoff, a volunteer nurse in a hospital for sick and wounded soldiers in Germany, entered upon her service with an admonition from her father in this wise:

"My daughter, I desire that you do not permit yourself to confine your nursing to any one patient. There is no more prolific field for love affairs than nursing. A young man, grateful for the attention he receives, falls in love with his nurse, the nurse pities her charge, and pity is akin to love. I wish you to remain fancy free because of this proposed match between you and your Cousin Adolf in America, a match desired as much by my brother, his father, as by myself. The American branch of our family has grown rich, while we have remained poor. It is therefore desirable that you should marry your cousin, who, as you know, will come over from America for the purpose as soon as this war has ended."

"Yes, father," replied Wilhelmina, "you will find me a dutiful daughter in this respect as in all others. We German girls know what is due to our parents, but I have heard that in America it is different—that in that country there is but little respect for age or parental authority, and young people consult their own wishes instead of those to whom they owe obedience."

This dialogue, which illustrates the difference between foreign and American marriages, was satisfactory to Herr Bischoff, who felt sure that his daughter would heed his admonition. But the old man's reasons for caution were stronger even than he had stated them. A young soldier who had been wounded in Belgium came under Wilhelmina's care, fell in love with her, and the pity she felt for him as well as the love he offered her caused a reciprocal feeling to arise within her own heart. He asked her all about herself, her name, the place in which she lived and told her that as soon as he was convalescent and should be granted a brief leave he would go to her father and ask for her hand. To this she replied that she was to marry a cousin who was to come from America as soon as the war was over.

"What," exclaimed the soldier, "marry one who takes no part in the defense of the fatherland and refuse one who has given his blood for it? I am astonished that so lovely a girl should do such a thing."

To this Wilhelmina replied that she owed the same duty to her parents that she owed to her country and whatever her father bade her she would do. The soldier insisted that he would go to her father and represent to him his want of patriotism and was sure that he would relent. But the lover added that Wilhelmina must be at home when he came, that she might add her supplications to his. Wilhelmina consented to this, but averred that without her father's consent she would not accept her soldier suitor.

When the young man became well enough to totter forth from the hospital he was given a month's leave, and Wilhelmina preceded him to her home to break the matter to her parents. When the lover came he found the father obdurate. Wilhelmina had represented the matter to him, and he replied that it was the soldier's duty to serve his country and he was not entitled to a reward, especially such a reward as he asked. The American to whom Wilhelmina was engaged had been born in another country, and his duty was to his own state. Therefore no more should be said about the matter. Wilhelmina should await the arrival of the man whom she was to marry.

When the soldier arrived and was informed of the situation he made matters worse by declaring that he would marry Wilhelmina in spite of her father, her mother and all her American relatives, including the cousin.

"You don't talk like a German at all," said Herr Bischoff angrily. "You talk like an American, for I have understood that in America there is but little respect for age and parental authority. Get you gone back to the army, and it is hoped that your country may get rid of you on the battlefield."

"I will marry Wilhelmina first," the soldier retorted.

"You will do no such thing."

"Well, at least give me five minutes' parting conversation with her alone; then if she wishes it I will give her up."

This promise induced Herr Bischoff to grant the interview, after which the soldier bid them all goodby. That night he eloped with Wilhelmina and in the morning neither of them put in an appearance. Herr Bischoff hunted high and low for them, but was unable to find them. However he learned that they had been seen together going back in the direction from which they came, and he followed them. Overtaking them, he upbraided his daughter and cursed his son-in-law.

"I told you," said the latter, "that I would marry Wilhelmina, and I have done so. In marrying me she has obeyed you, for I am William Bischoff, a citizen of the United States. Desiring to see something of this big war, I came over at its commencement instead of at its end to enlist in the German army as well as to marry my cousin."

Whereupon Herr Bischoff clasped the pair enthusiastically in his fatherly arms.



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