

GERMAN SCHWARTZKOPFF TORPEDO, ONE OF WHICH HIT THE LUSITANIA, CAN SINK ANY MERCHANTMAN AFLOAT

Nearly Two Hundred Pounds of Guncotton Carried in Compartments.

COURSE DIRECTED BY DELICATE MECHANISM

Horizontal and Vertical Rudders Keep Projectile Going Straight to the Mark After Launching.

(Special Dispatch.)

Berlin, May 22.—The torpedo employed by the German navy to sink the Lusitania is the Schwartzkopff, since this is the standard type of torpedo used in the German navy.

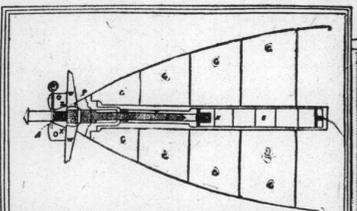
The Japanese use the Schwartzkopff, and there are a few Schwartzkopffs in the British navy. The United States employ the Whitehead, and the British depend largely on the Whitehead.

The Schwartzkopff differs principally from the Whitehead in being constructed of phosphor-bronze, whereas the Whitehead is built of steel. The Schwartzkopffs are located in Berlin.

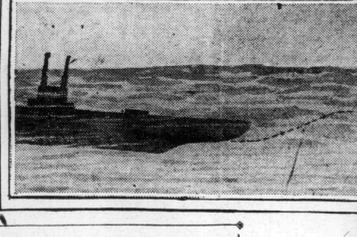
The Schwartzkopffs like the Whiteheads carry guncotton charges, and in the Schwartzkopffs the weight of guncotton is approximately two hundred pounds.

The German torpedo may be fired from above water or through an under water hose. In submarines the torpedo tubes are used under water, whereas in the case of a torpedo boat the discharge is from tubes located upon the deck, or above water.

In general appearance the torpedo resembles a fish. It is propelled through the water by a self-contained engine, and in later built torpedoes the power development is considerably in excess of thirty horse power. A speed as high as forty knots is credited to the recently built Schwartzkopffs with a radius of action of approximately three miles.



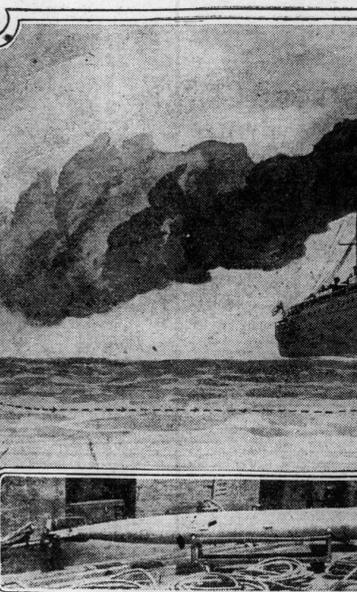
Torpedo head. The figures G represent the blocks of guncotton. The foremost compartment contains the detonator which fires the main charge. The jammer is whirled off the pin as the torpedo speeds ahead, and leaves the plunger free to act after the torpedo has cleared the submarine about forty feet.



How the Lusitania was torpedoed. The submarine is firing while on a descending angle. The dotted line shows the course of the Schwartzkopff torpedo. The torpedo assumes a course parallel to the surface of the water and at the depth to which it had been previously adjusted after it has cleared the torpedo tube by a few yards distance. The usual set given is for a depth of 15 feet.

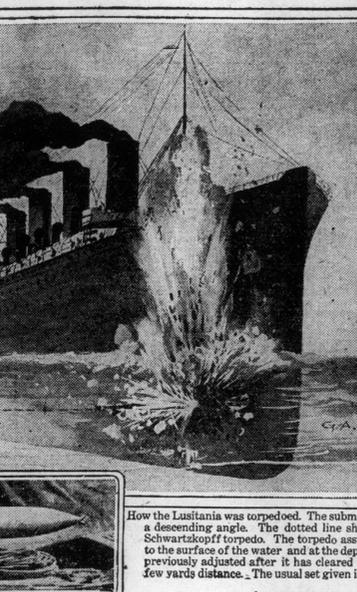
A torpedo fitted with war head. The Germans use the Schwartzkopff and the British the Whitehead, the difference between the two types being largely one of material used in construction. Steel is employed in the Whitehead body and phosphor bronze in the Schwartzkopff. The 17.2 inch Schwartzkopff carries a charge of 197 pounds of guncotton.

The steering is controlled by horizontal and vertical rudders, and when the torpedo is about to be fired the mechanism is adjusted so that the torpedo will run at a depth previously decided upon. On the plunge into the water the torpedo takes a deep dive, but the horizontal rudders force the head upward, and soon the torpedo is running in a course probably parallel to the surface of the water. The vertical rudders keep it from swerving off to the right or left. The result is effected by means of a gyroscopic device which steers the torpedo. The action of the horizontal rudders is controlled by plungers, the heads of which are exposed to the water, and as the depth of water varies the plungers are driven in and in turn



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Great Destruction in Ship's Vitals Caused by Explosion.

BIG HOLE OPENED IN THE HULL PLATES

Bulkheads Offer Little Resistance to Explosive Force, Permitting a Great Inrush of Water.

In the torpedo consists of wet guncotton that is to say, guncotton saturated to a density of 25 per cent water, but the firing charge, or the primer which fires the wet mass, is made up wholly of blocks of dry guncotton. The advantage of wet guncotton lies in the fact that it is safe to handle, and when detonated, as it can be by dry guncotton, it is as effective as if exploded in a dry state. The basis of guncotton is nitro-glycerine.

Ship construction has not yet reached a stage where the under water plates of a vessel can withstand the effect of a 200 pound charge of guncotton exploding alongside with a fifteen foot head or tank of water over the burst. Before such an explosion the hull plates of a merchant steamship will probably be blown in for a distance of thirty feet fore and aft and fifteen feet vertically. The effect is not only to blow inward the hull plates, but to tear loose the fastenings of bulkheads, and all longitudinals and athwartship beams—in other words, create in the wake of the explosion a fearful mass of tangled and torn hull construction, through which the water will flow in an overpowering flood. Neither the Lusitania nor any other vessel afloat could hope to withstand the effect of a 200 pound Schwartzkopff and the speed of the ship had nothing to do with the result. It was only necessary for the torpedo to strike, and the question of striking was one of accurate shooting.

decreases the plungers ease outward and the torpedo is brought back to horizontal. The torpedo on striking drives in a thousand and one details of a hand to hand combat—all are described in gripping word pictures by Charles Tardieu in a new installment of "Impressions of a Corporal," published in a recent number of the Figaro. He tells of the storming by a French battalion of a hamlet held by the Germans.

"Up to nightfall," he writes, "they had held out obstinately, clinging like leeches to the bank of the canal. For five hours our seventy-fives had sprinkled them, but constantly reinforced, their line kept on its life, having doubtless received orders to hold the position until dark. It would have been madness to try to take the bridge, for a number of machine guns were trained upon it.

"The infantry fire ceased with the close of day. At intervals our batteries would open upon them, to keep them busy. Under cover of the darkness we were able to reach the road, three hundred yards from the canal. We passed there a night of naps, broken by vigils, by patrols and sporadic firing.

"With the dawn our skirmishers advanced to the canal and crept cautiously across the bridge, unopposed. They had gone during the night, apparently afraid of being taken between two fires, and were trenching themselves in the villages of back. From the canal to the road, two thousand yards of marshy ground planted with osiers and brambles; here a beet field, there some vines.

"Advance Through Water. "The bridge cross we advance, Indian file, along the sides of the road, tramping through the water and mud, and the skirmishers slip far ahead, dodging into the brush, halting, searching, advancing, covering the undergrowth like cats, and a skirmisher, uncovered on the road falls. We halt, and the Major makes his dispositions for the attack. The village must be taken at once before they have had time to make its defenses strong. A patrol goes out to reconnoiter, the men slipping through the undergrowth like cats, and disappearing from sight. The fog melts slowly, the sky lights up with rosy streaks, the sun peeks up over the horizon, and a slight breeze gently stirs the leaves. It will be a fine day.

"We wait, hidden under cover of the woods, far from the road. A biscuit, a bite of chocolate, a mouthful of tepid water and a pipe. Our precaution is good (or along the line of the road, easy and natural target, several shells fall, tearing up huge gouts of earth and stone.

"One, two, three shots. They are firing upon our patrol. Two minutes pass, then the German prisoners may have been followed by a lively company. Silence for a moment. Three shells come crashing through the trees and tear huge holes in the soft earth. The patrol comes back. It seems that the Germans have dug trenches at the edge of the village, to the north and south of the road, and pierced loopholes in the garden walls and houses where they are entrenched.

"Shells Meet Advance. "On all sides but that upon which we face, we are masked by curtains of trees. It does not matter. We could not hope to be taken by surprise and at least we will be able to see our way clearly. The most difficult task is to approach without losing too many men. We must hurry, for not knowing our position, their heavy guns of 19 and 20 are searching methodically through our woods. The shells announce their coming, whistling like locomotives, throbbing through the branches, digging huge holes and bursting with a terrifying noise. Bits of metal are flying through the trees, are plunging into the earth. We are stretched upon the ground—do you remember?

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Great Sea Battle Likely for Control of Adriatic

Command of This Sea, Which Will Carry Great Advantage, Will Be First Object of Both Austria and Italy if Latter Enters War.

(Special Dispatch.)

LONDON, May 22.—The command of the Adriatic will be the first object sought by both Austria and Italy should war be declared between these two countries. Military strategists have considered this in all discussions of the present movements when hostilities begin. That Italy is powerful enough to block the Austrians at the northern frontier is not for a moment doubted, but it is not so certain Italy can prevent a strong Austrian fleet blocking the Straits of Otranto and thus rendering safe the passage of a large body of troops from Rome down the Adriatic to some point well below Venice. The threatening of an invasion in the vicinity of Brindisi or Taranto would demand of Italy the withdrawal of a large body of troops from the north, which would otherwise be available for purposes of advance on Austrian territory.

It must not be overlooked that at the battle of Lissa the Austrian navy showed what could be expected of it, and at the present time Austria has a fleet of great strength, and one built on lines essentially those characterizing the fleets of Germany. The Austrian fleet is based on Pola, the great naval station of the dual monarchy, maintaining the present struggle the ships of Austria-Hungary have remained practically unimpaired.

The French fleet has made a show of heading the Straits of Otranto, and only recently a French battle ship was torpedoed while on this duty by an Austrian submarine.

Italy's Powerful Fleet. "The other land, Italy in recent years devoted her energies to building a powerful fleet, and this determination to preserve the strength of her naval forces has been a source of apprehension of the most serious to Austrian strategists. The fleet of the Italian destroyers and submarines in the Adriatic are Venice and Pola.

Italy does not possess such favorable conditions as Austria for torpedo development. The coast of Dalmatia affords excellent shelter for this kind of craft and faces within close striking range of the Italian shore line.

To the southward of Venice there is no good natural shelter between Ancona and the Gulf of Manfredonia.

What the Italian General Staff long has had to consider has been the danger of a strong hostile force landing in the region of Rimini and Ravenna, to be followed by an advance against Bologna and Ferrara. A feat of this character, if accomplished, would be regarded as a grave military misfortune, and especially so if making a landing in the vicinity of Pescara. From Pescara the road to Rome itself would be threatened.

The Italian frontier on the north is defended by numerous forts armed with 11-inch and 12-inch guns. There also is a strongly fortified camp between the Udine and the sea. Recently the Italian military engineers have succeeded in linking together the great works at Cadone and Osoppo by a series of new and connecting fortifications. The object of these new works is to protect the concentration of troops and prevent a sudden rushing of the Italian flanks. The new military defence on the frontier also included the works on the course of the Isontina.

No Aid from Allies. "The military measures recently taken have been for the sole purpose of holding the northern frontier, while for the southern shore lines the defence in the first instance devolves upon the navy.

In any operation between the Italian and Austrian fleets, little help, if it is to be relied on, can be given at this time by either Britain or France. These two countries require the maintaining in being of strong home squadrons to meet any possible attack from the German high sea fleet, and all available vessels of the second fighting line, with an occasional exception, such as the Queen Elizabeth, are engaged at the Dardanelles.

In the circumstances the control of the Adriatic would resolve itself into a problem to be worked out between Italy and the dual monarchy, and it is for this reason that a naval engagement of magnitude is believed inevitable at the outset if Italy decides to join the Allies.

All Islam Is Loyal, Says Mr. Hanotaux

Corporal Tells of French Victory with Bayonets

(Special Dispatch.)

Paris, May 22.—Mr. Gabriel Hanotaux, the well known French Academician, in an article recently published in the Figaro, sets forth with interesting detail the present situation of France as regards the loyalty of her Mohammedan colonies. He explains clearly why the German hopes of a Muslim uprising in French African territories were dashed to the ground and he eulogizes the zeal and valor of the colonial troops.

"Now that the fate of Constantinople is decided," says Mr. Hanotaux, "we can but admire the energetic part taken by our African Muslims. They have seen the role which they should play in the world of Islam; they have certainly placed themselves frankly in the vanguard and they have not hesitated to give to the Young Turk a memorable example of discernment and far-sightedness. The Young Turk, whose doctrines are corrupted and based on all sorts of promises, could do nothing better than to put their power at the service of the two powers that represent in Europe reaction and barbarism, while our African soldiers fight at our side for civilization and progress.

"A line of demarcation is clearly traced. At an hour so critical ours have indicated their proper future in a definite manner. Faithful to the beliefs which are those of their fathers, knowing our declared wish to respect those beliefs, they have not let themselves be troubled by the spoliatory of the pretended 'holy war.' They know that Enver, David and their cohorts have no authority to 'raise the standard of the Prophet.'

"This clear view of the situation is that of the most competent persons, the most venerated interpreters of Mussulman thought. On November 11 was telegraphed from Algiers—'Look! protests against the attitude of the Ottoman government are becoming more numerous.' Let us give some examples. At Laghouat, the family of Bach-Azar Lakhdar, whose members are most powerful in that territory, telegraphed to the Governor General expressing their loyalty and fidelity and announcing that they were ready to march against the Turks as against the Germans. From Chelloua, Orleansville, Boghari, Constantine, from the great tribes of the Sahara, which sends two religious chiefs to the Bahmanya who founded, with the Chaddia of the south; from Saïda and from Djebel-Nador, there were also sent telegrams of protest against the odious act of the Ottoman officials.

"The Senoussi have done the same thing. The great sultans of the south, the centres of their religious propaganda, did not lag behind. Protests came from Rahmama at El-Hamel, territory of Boussadia, the sultans of Ain-Mahdi, circle of Laghouat, part of the confraternity whose head is at Tameza, in the territory of Tougourt, in the midst of the great desert. These two last named confraternities are the most active in Algeria. It was the Bahmanya who founded, with the aid of Mokran, the insurrection of 1871 in the Kabylie, where their khonana are always numerous.

"It would take pages to enumerate them all. But the most important point is that these peoples in their unanimous movement have turned to the right, and they have chosen, in other words, and they know why they have ranged themselves upon the side of France.

"Here is a short extract from the declaration given by the Senoussi to Mr. Alpeyrette, Resident General at Tanis:—'The government of the protectorate has given us innumerable benefits for thirty-three years. We have seen the progress of our motherland and the Tunisians are her children. Whatever touches her honor touches the honor of Tunis, and it is the duty of each Tunisian to give his life and his goods for the honor of the flag under whose shadow he lives.' The Bey of Tunis pronounced the words that are the key of the situation and that have been repeated from one end of Africa to the other:—'France and Tunis are one; in defending France the Tunisians are defending their motherland.'

Suppress Book on Britain's Perils.

from the methods of the War Office, against which no word of criticism should be raised.

LONDON, May 22.—Mr. William Le Queux finally has had a book suppressed. Some years ago he wrote one in which he endeavored to convince Great Britain of her perilous position in case of war. Lord Roberts earnestly championed the book and its lessons, and the author acquired much fame thereby.

Mr. Le Queux's latest effort is to show the British public that it is not yet far from the deadly peril in which the nation and the empire stand. The sale of the book has been suppressed by the War Office. The author tabulates his indictments of British methods under half a score of headings. He finds cause for dissatisfaction in practically the whole manner of conducting the war "apart

and forty shillings a ton. The government inquiry may result in a "demonstration" with the coal dealers just about the time that the winter arrives. The price will then come tumbling down and coal merchants will pat themselves on the back for having been so wise in their determination to the government, he says.

In the censorship, the Press Bureau and the War Office also see the "deadly peril," but the gravest peril of all is ignorance of the real truth about the war, the suppression of unpleasant facts, and the deliberate and malicious exaggeration of minor successes.

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Declares Bread Tickets Are Demanded Only of Poor

hurried manufacture with any kind of material that might have come handy. Among the German prisoners may have been found equipped with rifles of antiquated types and in poor condition.

"As to the composition of their armies, the Germans are woefully wanting in one very important respect. Individual initiative and almost total lack of initiative. Everything must be done en masse in order to have a chance of successful accomplishment. Hence the terrible wholesale massacres which have been suffered by the Germans. Especially among the officers—be it said in credit of their courage—many of them have been killed. In some regiments more than half. It is difficult to replace an officer, but it is still more difficult to see our way clearly. The most difficult task is to approach without losing too many men. We must hurry, for not knowing our position, their heavy guns of 19 and 20 are searching methodically through our woods. The shells announce their coming, whistling like locomotives, throbbing through the branches, digging huge holes and bursting with a terrifying noise. Bits of metal are flying through the trees, are plunging into the earth. We are stretched upon the ground—do you remember?

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ESPERANTO AIDS PRISONER IN RUSSIA.

(Special Dispatch.)

Berlin, May 22.—The Prager Tagblatt prints a letter from an Austrian soldier made prisoner by the Russians, who tells of the great use made of Esperanto and how it has helped him to escape. He writes that he was able to speak in that universal language with a stranger. I learned from these officers that the Minister of War was decidedly favorable to this language and that many of the officers had been studying it.

"Later I went to Siberia. It was an almost endless journey through the cold and snow. Upon my arrival here I found a group of students of Esperanto—some Russians, some Hungarians and several Italians, and we all are able to hold conversation which otherwise would not be possible. While this section of Siberia has its disadvantages and inconveniences, still we manage to enjoy ourselves fairly well and live in the hope that we will soon be able to return to our Fatherland."

"Thanks to this officer I received excellent treatment and was sent to Moscow after a few days. When I arrived there the word had gone before me that I was a student of Esperanto, and soon three officers called on me and were delighted to be able to speak in that universal language with a stranger. I learned from these officers that the Minister of War was decidedly favorable to this language and that many of the officers had been studying it.

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