

PRESENT WAR GAINS FOR THE SUBMARINE CHIEF ATTENTION OF NAVAL CONSTRUCTORS WHO DOUBTED ITS EFFICIENCY

Allies' Lines May Bend, but Never Break, Says Frenchman from Front

Mr. Gaston Dru Tells of Trenches That Are Semi-Permanent Fortifications, with Barbed Wire Entanglements and Heavy Guns on Most Important Positions.

(Special Dispatch.)

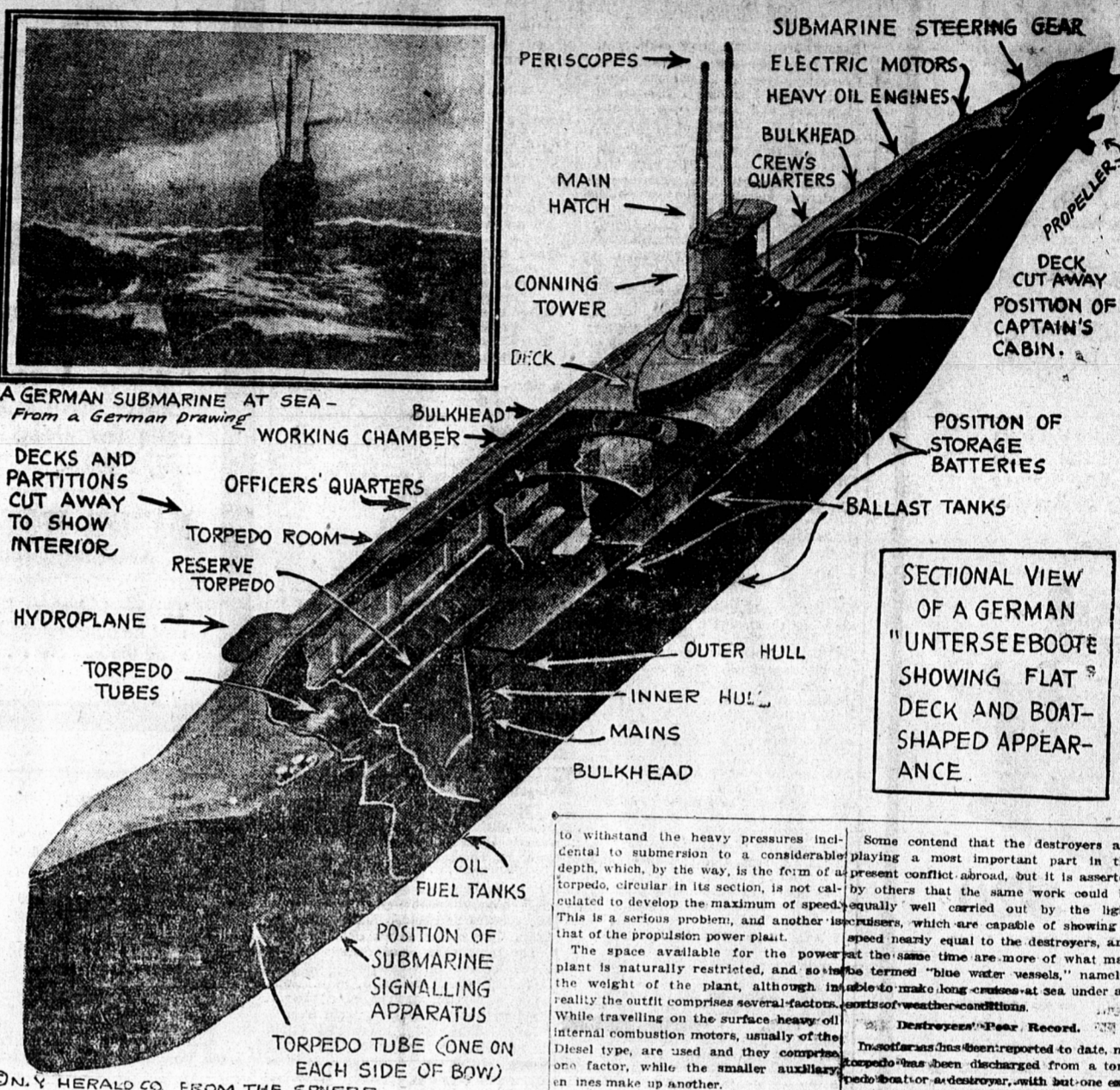
LONDON, Dec. 12. Gaston Dru, writing for the Daily Mail of French bravery, says:— "A Frenchman who has just returned from the front, where he spent several days with the different French army staffs, and who is staying for a few days in London, gave me the following account of his trip to the English and French lines:— ground they defend, for their sportsman-like behavior under the most trying circumstances. They seem, in fact, to consider war as a sport, rather more dangerous than big game shooting, but as highly interesting. Let me say that, in a different way, the French troops show the same admirable morale and give you a few instances of their heroic behavior.

half of lead always leaving him unscathed. His staff has already been renewed twice, but the old fellow is still unscathed. Unnecessary exposure of life, would you say? Now, listen. The other day on a most vital point of our line the Germans made a desperate effort to break through. The French trenches, raked by shell and bullet, were becoming well-nigh untenable. Appears the old fat general. His A. D. C. puts down the well known campaigner; the general sits on it. The deathly hurricane becomes so violent that the defenders of the trenches waver—a few seconds more and there would be a panic among them. 'Tillou, children,' says the old fat man, 'fighting a cigar, 'are you going to leave me? I am comfortable here. I hate walking. My horse is not here and if you go I must remain alone.' A cheer from the French trenches. The soldiers will not leave their general, and the whole day long they held their trenches, inflicting tremendous loss on the Germans, who could not in spite of their efforts, 'bag' or kill the old fat man.

German Cruelty to Wounded. "Let us go back now to the east, near the Argonne. I will tell you a story which will show the inhumanity of the foe against us. A couple of hundred yards apart, night attack by the Germans; neither party wounded remain near the French barbed wire entanglements. Lots of German wounded lie in front of the French trenches. Under cover of the night the French bring into their lines the German wounded, for not so the Germans. They would be impossible in the day. It would become impossible for the French wounded to lie the whole day in their trenches, meaning and screaming. During the next night those of the poor fellows who are able to do so German soldiers get out of their lines, get back where they have fallen, and, joining the French, who do not dare to fire for fear of hitting their wounded comrades. French wounded, half-delirious, sing songs at intervals during forty-eight hours at the following melody:—
Messieurs les Allemands,
Je suis trop blessé,
Pour me battre encore,
Venez me chercher,
Donnez-moi un peu d'eau,
Car je mourrai de soif!

"I happened to inspect our lines near Verdun a few days after a very stirring episode had taken place. A French 'adjudant' (non-commissioned officer of one of our territorial regiments—where are, as you know, our Landsturm and not supposed to be as fully prepared for active service as our standing army or its reserve)—had, with a few of his men, held a farm for over forty-eight hours against a considerable number of German troops who had attacked the buildings with the utmost determination and with the support of artillery. After the relief of this territorial unit the general in command of that part of the French line paraded them and, unexpectedly calling the 'adjudant' out of the ranks, gave him there and then the highest reward which could be given to him—a médaille militaire—and asked him what was his calling in civilian life. 'I am the son of the proprietor of a night restaurant facing the Folies-Bergères and I help my father,' said the 'adjudant.' Is not that typical of the French army? This man, who had certainly not been prepared by his ordinary life—rather the reverse—for deeds of military courage, had behaved under the most trying circumstances like a hero and held against tremendous odds a position which ought to have been in reason carried a hundred times by the overwhelming German forces which attacked it!

General with a Charmed Life. "Another instance of French bravery. We are in the North of France now, close to these English soldiers, whose courage fills our men with noble emulation. An old French general, very fat and hating to walk more than absolutely necessary, has a campaigner carried by one of his A. D. C.'s, and planted always where the German bullets and shells fall the thickest. He seems to bear a charmed life, and



to withstand the heavy pressures incidental to submergence to a considerable depth, which, by the way, is the form of the torpedo, circular in section, is not calculated to develop the maximum of speed. This is a serious problem, and another is, the space available for the power plant is naturally restricted, and so the weight of the plant, although it is really the outfit comprises several factors. While travelling on the surface heavy oil internal combustion motors, usually of the Diesel type, are used and they compress one factor, while the smaller auxiliary engines make up another.

As such as the submarine is submerged she is driven by electricity, and this is generated by dynamo while on the surface and delivered through storage batteries to the shafts and propellers. This electrical equipment makes up another factor, while the compressors and other auxiliary machinery necessary to eject the torpedoes and operate the pumps must also be considered.

The Diesel motor, of many makes and designs, is heavy and more or less intricate, but has the great advantage of using heavy low grade fuel oils rather than volatile gasoline, and this factor for safety is considered to offset all other disadvantages the Diesel engines may possess resulting from the high compression necessary for their operation and the consequent heavy construction and multiplicity of parts.

Dislike German Motor. It is known that the Allies are determined to eliminate everything German or of German origin, wherever possible, and as the Diesel motor is of German origin so far as the inventor of the principle is concerned, although made in many countries, the nations now at war with Germany are anxious to find some substitute for the Diesel motor, but at the present time have not succeeded.

Some contend that the destroyers are playing a most important part in the present conflict abroad, but it is asserted by others that the same work could be equally well carried out by the light cruisers, which are capable of showing a speed nearly equal to the destroyers, and at the same time are more of what may be termed "blue water vessels," namely, the weight of the plant, although it is really the outfit comprises several factors, and is not so well suited for sea under all conditions.

Germany's "Minenwerfer" Throws 200 Pound Shell That Can Be Seen Coming

(Special Dispatch.)

LONDON, Dec. 12. As the war progresses we become more and more aware of the completeness of the German fighting machine. The huge howitzers which were used in the reduction of the Belgian forts were perhaps the most surprising feature of the Teuton's artillery equipment. But in many other departments the careful scientific preparation and thoughtful which have been displayed are only too evident. If the morale of the German troops were only equal to the excellence of their artillery equipment a different tale of their progress on the Continent could be told.

When the howitzer is fired the adapter and shell are forced out together. The two are soon separated, however, the air forcing its way between them in the direction of the arrows, causing the adapter to fall apart and to allow the shell to travel on its way alone. The velocity given to the shell as it leaves the bore of the howitzer is only 100 feet per second. The lowest elevation employed is forty-five degrees, and at this angle the shell travels a distance of 550 yards, the maximum range obtainable. The accuracy of fire is said to be very good.

Its Flight Can Be Seen. Although this range is so small, the shell takes no less than ten seconds in its flight, and reaches a height of 450 feet in the air. It is difficult to imagine the feelings of those in the trenches against which the howitzer is operating, as they see the large circular shell lobbing toward them. The projectile consists of but a thin steel envelope, the greater part of its 200 pounds weight consisting of high explosive. Four pounds of dynamite or gun-cotton are considered sufficient to demolish breastworks of two to three feet thickness, composed of earth rammed between planks or railway sleepers. It is not, then, difficult to estimate the destructive powers of such a mass of high explosive falling into the trenches. The effect of ordinary shrapnel shell is obtained by the bullets and splinters of the envelope when the shell bursts. With the "minenwerfer" shell the effect is almost entirely explosive. The walls of the shell are too thin to be capable of doing much damage, and it is not in this direction that its effect is expected.

When the trenches are less than five hundred yards apart, a shorter range can be obtained by elevating the howitzer to a greater angle than forty-five degrees. At sixty degrees, for instance, the range would be 470 yards. The shell would then reach a height of 520 feet in the air, and would take twelve and a half seconds to complete its trajectory.

Invasion of England by Air May Come Any Moment

(Special Dispatch.)

LONDON, Dec. 12. The reasons for the general disbelief that exists in England of a German invasion already have been reported. And while much correspondence appears in the daily newspapers regarding the necessity for preparation in case of such an event by the organization of civilian defensive forces, like the landsturm in Germany, the English people as a whole remain very blind to the necessity for such precautions.

There are experts in aerial navigation who believe that a German invasion is not only possible but probable, and who have, therefore, been keenly watching the coastal struggle and studying its significance. One of these is H. Massac Buis, who discusses the situation with some authority.

The determined endeavors of the Germans to gain positions bordering on the Straits of Dover, he says, "have served on the one hand for the publication of the most alarmist reports of their intentions, and on the other for contemptuous assertions by a section of civilian writers in England to the effect that whether the enemy gain possession of any bases on the Straits of Dover or not makes absolutely no difference in what they can do to annoy England. This second school, for example,

asserts that Ostend, Calais and Boulogne would be of no use as bases from which to operate airships, and that despite the fact that various forms of more or less portable German airship hulls are already being set up at Brussels, Antwerp and elsewhere.

"The great problem before all classes of airship builders is to utilize as small a proportion as possible of hydrogen, the lifting force to raise the mere body of the airship, so that as large a proportion of the force as possible may be available for carrying crew, fuel, ammunition or other apparatus required for the purposes of a campaign service. All classes of machines that navigate the air have to carry their fuel supplies with them; therefore, if they are required to make a long voyage, nearly all their load carrying capacity must be employed in lifting the fuel. Thus, if operating from any base on the North Sea, that would require a voyage of 100 miles or more to reach England, an airship, which always has to return to its base, is to end the voyage safely, would have to carry fuel for anything between 2.0 and 4.0 m. lbs. more than would be necessary for its making an attempt on England from a base such as Ostend. Were it operating from

that French port the same airship would be able to carry a ton or two more ammunition, because it would want that much less weight of fuel to accomplish the given task.

concentrated a deal of attention on evolving comparatively heavy and large aeroplanes, even as she has especially favored large air ships. In the preliminary stages of the war the superiority of the smaller sized and speedier British aeroplanes stood the Allies in excellent stead. In turn there seemed a very considerable amount of evidence to the effect that German aeroplanes rather had the advantage of the average French types in the matter of speed. Be this as it may, in the later stages of the war the greater part of German aeroplanes work has not been done by the largest type of machines that have been evolved in the Fatherland in times of peace.

Invasion by Aeroplanes. "It is, therefore, necessary matter for speculation whether or not Germany's plans for making an aerial invasion of England include the use of aeroplanes. From the point of view of aeroplanes, no reason whatever why these should not extend quite effectively from as far as France to obtain bases nearer Ostend or Boulogne, yet longer excursions could be made by such aeroplanes into England. The use of larger machines than appear so far as the carrying of greater supplies of petrol—as with the Curtiss transatlantic aeroplanes, which had to be made on a large scale to carry big stores of fuel, with a corresponding demand for greater motor power—but it might be to enable the carrying of the carrying of bombs or aerial torpedoes to be as great as possible."

"For these reasons all talk of the possession of Channel bases being useless to the Germans for the purpose of employing aircraft against England is idle. To say that they can operate against England more conveniently from a base nearer at hand is not to indulge in scaremongering. To create a false confidence on the part of the public and tell it in effect that England is immune from aerial raid is absurd.

"The public must be prepared for the new era. It must also learn the lessons that this war has taught. Many a German move is made not because there is any sense or military object in it, but merely because it is hoped by that means to spread terror. Therefore, though no permanent good, and certainly very little military damage, is likely to result from any German aerial raid over England, a deal of miscellaneous damage could be done. Further, the possession of Channel bases would inevitably mean that bomb dropping expeditions by aeroplanes would be possible on the part of a German force operating against England.

In times of peace, too, Germany has

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IN GERMANY BY MISCHANCE, WRITER SEES BOYS DRILL

Correspondent on Wrong Train Narrowly Escapes by Crouching Under Seat

(Special Dispatch.)

LONDON, Dec. 12. "A story of an exciting trip into German territory, which was entirely unintentional, is sent by a correspondent now stationed at Lahn Constance. Remembering that Constance was a training centre for the younger German conscripts, he writes:—I thought a short trip might prove interesting. I therefore went to Kreuzlingen, a small Swiss town, that is really a suburb of Constance, with the idea of arranging a cab drive into Germany.

"This turned out to be impossible, first because what few cabs Kreuzlingen possessed before the war had emigrated to Constance for the use of their excellent drivers. The Herr Officer, and secondly because gendarmes stood like guardian angels by the chain that stretches half way across the road and divides Switzerland from God's own empire. Only Germans and Swiss are allowed to enter the hallowed territory at this point, so that when my passport was demanded I remarked regretfully that I had left it at home. This was strictly true for I had taken care to bring nothing incriminating with me except my mistakes when leaving Germany.

Giving up the quest as hopeless for the moment, I decided to catch the 3:25 train back to my present quarters, but when the train moved off I discovered we were off in a westerly instead of a southerly direction. "Konstantin," called the conductor as he stalked through the carriage. I was in Germany, I hesitated, and was saved, for it was not until we were again on the move that I decided to leave the train, and I jumped off some fifty yards from the station. By dodging under a parallel fence and following a small path parallel with the railway line I reached the town.

There was nothing for it but to put aside all horrid doubts about whether it would be possible to get out of Germany and to make the most of my slight escape opportunities. In three hours I "did" Constance in approved American tourist fashion.

The cabs were thronged with groups of young men, many of them young or six years older than the young barbarians, who were being drilled by a local sergeant, preceded by a small archer who conformed to the look of a kettledrum.

In the barracks yard a detachment of youths, many of them only five or six years older than the young barbarians, were being drilled by a local sergeant, preceded by a small archer who conformed to the look of a kettledrum.

"Fin, aren't they?" said a woman at my side. "Indeed," I replied, and then to avoid awkward questions as to what I was not doing military service, "We don't see things like that in Switzerland."

"As in French towns, the proportion of people wearing military caps, and in the French old church I saw row upon row of kneeling women clad in black.

"There is a large hospital for French wounded in Constance, and about twenty of them were being brought from the station. They were mostly only suffering from slight injuries and could walk, but two or three were carried on ambulances. The German population watched them shyly, and there were no signs of a hostile demonstration.