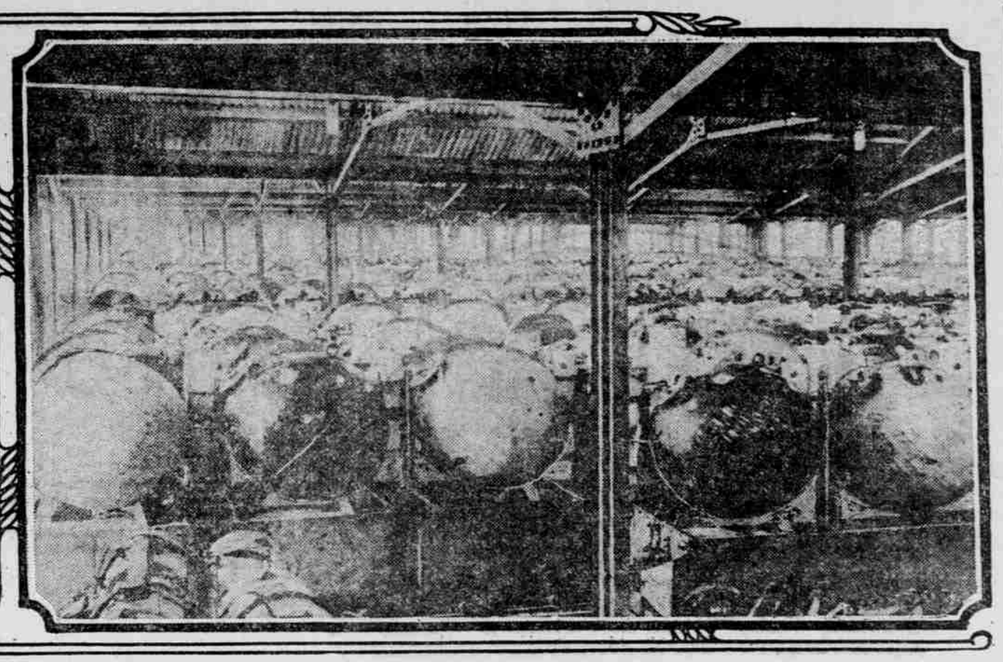
THE VICTORY AT SEA

Difficulties of Mine-Laying in North Sea

By Admiral William Sowden Sims

Rear-Admiral Strauss (fourth officer from the right), in charge of the mine-laying forces, with his staff, at headquarters in Inverness.



Mines ready for the North sea barrage. This mine field, extending from the Shetland islands to Norway, was the greatest undertaking of its kind in the history of warfare. It was made possible by the manufacture of a new type of mine—the work of American inventors.

WAS there no more satisfactory way of destroying submarines than by pursuing them with destroyers, sloops, chasers and other craft in the open seas? It is hardly surprising that our methods impressed certain of our critics as tedious and ill-conceived, and that a mere glance at a small map of the North Sea suggested a far more reasonable solution of the problem. The bases from which the German submarines found their way to the great centers of shipping were Ostend and Zeebrugge on the Belgian coast, Wilhemshaven and Cuxhaven on the German coast, and the harbor of Kiel in the Baltic sea. From all these points the voyage to the waters that lay west and south of Ireland was a long and difficult one; in order to reach these hunting grounds, the German craft had either to pass through the Straits of Dover to the south, or through the wide passage way to the North sea that stretched between the Shetland islands and Norway, and thence sail around the northern coast of Ireland. We necessarily had little success in attempting to interfere with the U-boats while they were making these lengthy open-sea voyages, but concentrated our efforts on trying to oppose them after they had reached the critical areas.

But a casual glance at the map convinced many people that our procedure was a mistake. And most newspaper readers in these days were given much attention to this map. Many periodicals published in Great Britain and the United States were fond of exhibiting to their readers diagrams of the North sea; these diagrams contained one heavy black bar drawn across the Straits of Dover and another drawn across the northern passage from Scotland to Norway. The accompanying printed matter informed the public that these pictures illustrated the one effective "answer" to the submarine. The black bars of printers' ink represented barrages of mines and nets, which, if they were once laid between the indicated spots, would blow to pieces any submarine which attempted to force a way across. Not a single German U-boat could therefore succeed in getting out of the North sea. All the trans-Atlantic ships which contained the food supplies and war materials so essential to allied success, would thus be able to land on the west coast of England and France; the submarine menace would automatically disappear and the war on the sea would be won. Unfortunately, it was not only the pictorial artists employed on newspapers and magazines who insisted that this was the royal road to success. Plenty of naval men, in the United States and in Europe, were constantly making the contention, and statesmen in our own country and in allied countries were similarly fascinated by this programme.

When I arrived in London, in April, 1917, the great plan of confining the submarines to their bases was everywhere a lively topic of discussion. There was not a London club in which the admiralty was not denounced for its stupidity in not adopting such a perfectly obvious plan. The way to destroy a swarm of hornets—such was the favorite simile—was to annihilate them in their nests, and not to hunt and attack them, one by one, after they had escaped into the open. What the situation needed was not a long and wearisome campaign, involving unlimited new construction, to offset the increasing losses of life and shipping, and altogether too probable defeat in the end, but a swift and terrible blow, which would end the submarine menace overnight.

Dig Them Out.

The naval officers who expressed fears that, under the shipping conditions prevailing in 1917, such a brilliant performance could not possibly be carried out in time to avoid defeat, merely gained a reputation for timidity and lack of resourcefulness. When the first lord of the admiralty, Winston Chruchill, in 1915, declared that the British fleet would "dig the Germans out of their holes like rats," his remarks did not greatly impress naval strategists, but they certainly sounded a note which was popular in England.

One fact, not generally known at that time, demonstrated the futility of the whole idea. Most newspaper critics assumed that the barrage from Dover to Calais was keeping the submarines out of the channel. That the destroyers, aircraft and other patrols were safely escorting troopships and other vessels across the channel was a fact of which the British public was justly proud. Yet is did not necessarily follow that the submarines could not use the channel as a passage way from their German bases to their operating areas in the focus of allied shipping routes. The mines and nets in the channel, of which so much was printed in the first three years of the war, did not offer an effective barrier to the submarines. This was due to various reasons too complicated for description in an article of this brief nature.

The unusually strong tides and rough weather experienced in the vicinity of the Straits of Dover are well known. As one British officer expressed it at the time, "our experience in attempting to close the straits has involved both blood and tears"—blood because of the men who were lost in laying the mines and nets, and tears because the arduous work of weeks would be swept away in a storm of a single night. In addition, at this stage of the war, the British were still experimenting with mines; they had discovered gradually that the design which they had used up to that time—the same design which was used in the American navy—had been defective. But the process of developing new mines in war time had proved slow and difficult; and the demands of the army on the munition factories had prevented the admiralty from obtaining a sufficient number. The work of the Dover patrols was a glorious one, as will appear when all of the facts come to public knowledge. But in 1917 this patrol was not preventing the U-boats from slipping through the channel. The straits of Dover, at the point where this so-called barrage was supposed to have existed, is about 20 miles wide. The passage way between Scotland and Norway is 250 miles wide. The water in the channel has an average depth of a few fathoms; in the northern expanse of the North sea it reaches an average depth of 600 feet. Mining in such deep waters had never been undertaken or even considered before by any nation. The English channel is celebrated for its strong tides and stormy weather, but it is not the scene of the tempestuous gales which rage so frequently in the winter months in these northern waters. If the British navy had not succeeded in constructing an effective mine barrier across the English channel, what was the likelihood that success would crown an effort to build a much greater obstruction in the far more difficult waters to the north?

Barrage Must Be Protected.

The point which few understood at that time was the mere building of the barrage would not in itself prevent the escape of submarines from the North sea. Besides building such a barrage, it would be necessary to protect it with surface vessels. Otherwise German mine sweepers could visit the scene and sweep up enough of the obstruction to make a hold through which their submarines could pass. It is evident that, in a barrage extending 250 miles, it would not be difficult to find some place in which to conduct such sweeping operations, it is also clear that it would take a considerable number of patrolling vessels to watch such an extensive barrier and to interfere with such operations. Moreover, we could not send our mine layers into the North sea without destroyer escort; that is, it would be necessary to detach a considerable part of our forces to protect these ships while they were laying their mines. Those responsible for anti-submarine operations believed that, in the spring and summer of 1917, it would have been unwise to detach these anti-submarine vessels from the areas in which they were performing such indispensable service.

The overwhelming fact was that we needed all the surface craft we could assemble for the convoy system. The destroyers which we had available for this purpose were entirely inadequate; to have diverted any of them for other duties would at that time have meant destruction to the allied cause. The object of placing the barrage so far north was to increase the enemy's difficulty in attempting to sweep a passage through it and facilitate its defense by our forces. The impossibility of defending a mine barrier placed too far south was shown by experience in that area of the North sea which was known as the "wet triangle." By April, 1917, the British had laid more than 30,000 mines in the Bight of Heligoland, and were then increasing these obstructions at the rate of 3000 mines a month. Yet this vast explosive field did not prevent the Germans from sending their submarines to sea. The enemy sweepers were dragging out channels through the mine fields almost as rapidly as the British were putting them down; we could not prevent this, because protecting vessels could not remain so near the German bases without losses from submarine attacks. Moreover, the Germans also laid mines in the same area in order to trap the British minelayers; and these operations resulted in very considerable losses on each side.

These impediments made the egress of a submarine a difficult and nerve-racking process; it sometimes required two or three days and the assistance of a dozen or so surface vessels to get a few submarines through the Heligoland Bight into open waters, several were unquestionably destroyed in the operation, yet the activity of submarines in the Atlantic showed that these mine fields had by no means succeeded in proving more than a harassing measure. It was estimated that the North sea barrage would require about 400,000 mines, far more than existed in the world at that time, and far more than all our manufacturing resources could then produce within a reasonable period.

I have already made the point, and I cannot make it too frequently, that time is often the essential element in war—and in this case it was of vital importance. Whether a programme is a wise one or not depends not only upon the feasibility of the plan itself, but upon the time and the circumstances in which it is proposed. In the spring of 1917 the situation which we were facing was that the German submarines were destroying allied shipping at the rate of nearly 800,000 tons a month. The one thing which was certain was that, if this destruction should continue for four or five months, the allies would be obliged to surrender unconditionally. The pressing problem was to find methods that would check these depredations and that would check them in time. The convoy system was the one naval plan—the point cannot be made too emphatically—which in April and May of 1917 held forth the certainty of immediately accomplishing this result. Other methods of opposing the submarines were developed which magnificently supplemented the convoy; but the convoy, at least in the spring and summer of 1917, was the one sure method of salvation for the allied cause. To have started the North sea barrage in the spring and summer of 1917 would have meant abandoning the convoy system; this would have been sheer madness.

It Couldn't Be Done.

Thus in 1917 the North sea barrage was not a ready answer to the popular proposal "to seal the rats up in their hole." We did not have a mine which could be laid in such deep waters in sufficient numbers to have formed any barrier at all; and even if we had possessed one, the construction of the barrage would have demanded such an enormous number that they could not have been manufactured in time to finish the barrage until late in the year 1918. Presently, the situation began to change. The principal fact which made possible this great enterprise was the invention of an entirely new type of mine. The old mine consisted of a huge steel globe, filled with high explosive, which could be fired only by contact. That is, it was necessary for the surface of a ship, such as a submarine, to strike against the surface of the mine, to start the mechanism which ignited the explosive charge.

The mere fact that this immediate contact was essential enormously increased the difficulty of successfully mining waters that range in depth from 400 to 900 feet. If the mines were laid anywhere near the surface, the submarine, merely by diving beneath them, could avoid all danger; if they were laid any considerable depth, it could sail with complete safety above them. Thus, if such a mine were to be used at all, we should have had to plant several layers, one under the other, down to a depth of about 350 feet, so that the submarine, at whatever depth it might be sailing, would be likely to strike one of these obstructions. This demanded such an enormous number of mines as to render the whole project impossible.

The Browne Mine.

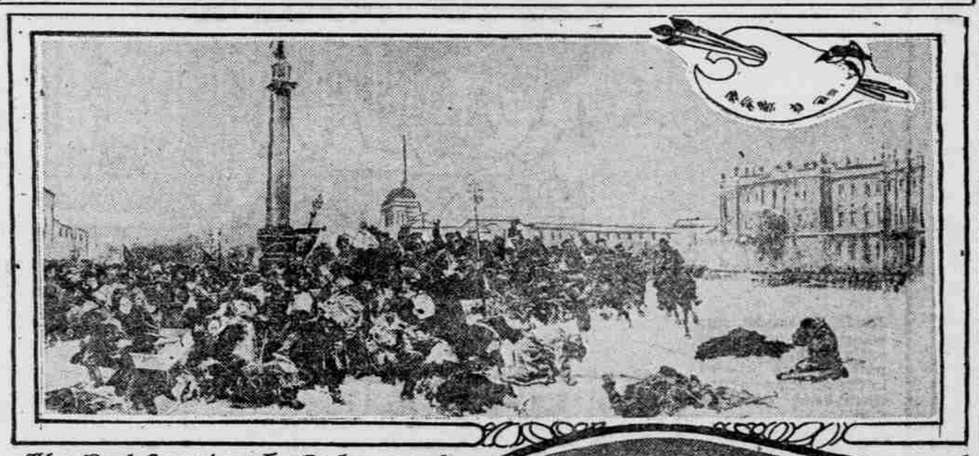
We Americans may take pride in the fact that it was an American who invented an entirely new type of mine, and therefore solved this difficulty. In the summer of 1917, Mr. Ralph C. Browne, an electrical engineer of Salem, Mass., offered a submarine gun for the consideration of Commander S. P. Fullerwinder, U. S. N., who was then in charge of the mining section of the bureau of ordnance. As a submarine gun this invention did not seem to offer many chances of success, but Commander Fullerwinder realized that it comprised a firing device of excellent promise. The bureau of ordnance, assisted by Mr. Browne, spent the summer and fall experimenting with this contrivance and perfecting it; the English mining officers who had been sent to America to co-operate with our navy expressed great enthusiasm over it; and some time about the beginning of August the bureau of ordnance came to the conclusion that it was a demonstrated success. The details of Mr. Browne's invention are too intricate for description in this place, but its main point is comprehensible enough. Its great advantage was that it was not necessary for the submarine to strike the mine in order to produce the desired explosion. The mine could be located at any depth and from it a long "antenna," a thin copper cable reached up to within a few feet of the surface, where it was supported in that position by a small metal buoy. Any metallic substance, such as the hull of a submarine, simply by striking this antenna at any point, would produce an electric current, which, instantaneously transmitted to the mine, would cause this mine to explode. The great advantage of this device is at once apparent. Only about one-fourth the number required under the old conditions would now be necessary. The mining section estimated that 100,000 mines would form a barrier that would be extremely dangerous to submarines passing over it or through it, whereas, under the old conditions, about 400,000 would have been required. This implies more than a mere saving in manufacturing resources; it meant that we should need a proportionately smaller number of mine-laying ships, crews, officers, bases and supplies—all those things which are seldom considered by the amateur in warfare, but which are as essential to its prosecution as the more spectacular details.

I wish to emphasize the fact that, in laying such a barrage, our object was not to make an absolute barrier to the passage of submarines. To have done this we should have needed such an enormous number of mines that the operation would have been impossible. Nor would such a dense barrier have been necessary to success; a field that could be depended upon to destroy one-fourth or one-fifth of the submarines that attempted the passage would have represented complete success.

Another circumstance which made the barrage a feasible enterprise was that, by the first of the year 1918 it was realized that the submarine had ceased to be a decisive factor in the war. It still remained a serious embarrassment, and every measure which could possibly thwart it should be adopted. But the writings of German officers, which have been published since the war, make it apparent that they themselves realized early in 1918 that they would have to place their hopes of victory on something else besides the submarine. The convoy system and the other methods of fighting under-water craft which I have already described had caused a great decrease in sinkings. In April of 1917 the losses were nearly 900,000 tons; in November of the same year the losses were less than 300,000 tons. Meanwhile the construction of merchant shipping, largely a result of the tremendous expansion of American shipbuilding facilities, was increasing at a tremendous rate. A diagram of these, the two essential factors in the submarine campaign, disclosed such a rapidly rising curve of sinkings, that the time could be easily foreseen when the net amount of allied shipping after the submarines had done their worst, would show a promising increase. But, as stated above, the submarines were still a distinct menace; they were still causing serious losses; and it was, therefore, very important that we should leave no stone unturned toward demonstrating beyond a shadow of doubt that warfare as conducted by these craft could be entirely put down. The more successfully we demonstrated this fact and the more energetically we prosecuted every form of opposition, the earlier would his general morale break down and victory be assured. In war, where human lives, as well as national interest, are at stake no thought whatever can be given to expense. It is impossible to place a value on human life. Therefore, on November 2, 1917, the so-called "Northern Barrage" project was officially adopted by both the American and the British governments. When I say that the proposed mine field was as long as the distance from Washington to New York, some idea of its magnitude may be obtained. Nothing like it had ever been attempted before. The combined operation involved a mass of detail which the lay mind can hardly comprehend. The cost—$40,000,000—is perhaps not an astonishing figure in the statistics of this war, but it gives some conception of the size of the undertaking.

KOSSAK PROMINENT AMONG MODERN PAINTERS OF HORSES, SOLDIERS AND BATTLE SCENES

Patriotic Pole, Once Court Painter to Kaiser, Quits in Huff When Monarch in Speech to Troops Declares in Favor of War on Poland.



The Red Sunday In Petrograd

BY ROBERT T. BARRY.

AMONG the modern painters of horses, soldiers and battle scenes who, like Meissonier, have a real message for the world, one of the most outstanding is Wojciech (Albert) Kossak, the best-known of the painters of the newborn republic of Poland.

He was court painter to Kaiser Wilhelm in 1901, when, at the castle of Marienburg, on the shores of the Vistula, the then all-powerful war lord addressed a gathering of German officers as follows:

"I call upon you all, Knights of the Black Cross, to join hands in the holy war against Polish arrogance and impertinence."

This was too much for the patriotic Pole and he forthwith quit his job—an unusual and perhaps unique thing for an artist to do, as the position was highly lucrative no less than "easy," and he had held it for eight years.

Fourteen years later, in the fall of 1915, the painter and his former patron met again. This time it was in Cracow. Kossak then was a captain in an Austrian cavalry regiment, serving under the flag of the Hapsburgs, as did most of the men of what was then Austrian Poland, and encouraged, like all Poles, with the glittering promises of independence for Poland held out by the central empires—an independence to be granted after the war was comfortably won.

"Well, that's the Kossak," cried the kaiser, spying his former painter in a crowd of officers in the great central square of Cracow, before Rynek, the old cloth-hall. Riding over, Wilhelm reined in his horse and for a full minute looked down at him in silence.

"Yes, yes," he said, finally, speaking slowly. "Almost 14 years have passed. . . . Never mind."

His face brightened and with a shrug of his shoulders and a gesture he added:

"All that doesn't matter now. It is enough that we are privileged to live in such glorious hours as these. . . . Just think, our armies are advancing on all fronts."

It was the day after the breaking of the Russians at Grodno.

Then Wilhelm, by now smiling broadly, leaned from his saddle and spoke confidentially, almost in a whisper:

"The map of Europe shall be quite changed," he declared. "The map of Poland, also . . . But your countrymen must be reasonable."

"That prediction came true, but not just as Wilhelm expected," said Kossak with a grin, as he retold the conversation. "Certainly the map of Poland has been changed."

That reference to the necessity of Poles being reasonable puzzled Kossak. So, a few days later, he asked General Mackensen, whom he knew, what was meant.

"Yes, yes. I know all about that," Mackensen replied at once.

"I'll tell you: We feel that you Poles may ask for Posen, and, of course, that would be too much."

That also came true. The Poles did ask for Posen. Rather, they demanded it, and got it, too. Today it is a part of the reborn republic of the Vistula. Posen, it will be remembered, was the portion of the ancient kingdom which was held by Germany since the partitions of 1772 snuffed out the independence of Poland.

Kossak, The Soldier-Artist, At His Easel