

Technological tanks had big armoured plates to protect

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Technological advancements scriptIntroduction: NAME ChrisWelcome to war stories. in this episode we will discuss tanks and tea bags. What you probably know about the first world war is that it was a bloody war with a lot of casualties. in fact over 41 million.

What you probably didn't know is that the war also was a time of great technological advancements. As was the case in world war two or any war, the first world war has seen some great inventions that we are still using every day. The entire country focussing on winning the war proved to be a good way of stimulating technological advancements. Let's start off with some war machines. Part 1NAME JonathanYes, they indeed invented tanks in the first world war. Although the tanks were really primitive and failed quite often it was a great piece of technological advancement.

It was especially useful because it could cross the battlefield without taking any casualties. The tanks had big armoured plates to protect the men inside. The drawback was that it was really heavy and in the muddy landscape of the battlefield the tanks got stuck pretty often.

The conditions inside the tank were also pretty bad. It was a narrow space and there was a lack of ventilation. The engine's fumes also came into the cabin including carbon monoxide which is toxic. The tanks could only move at about walking speed and its armoured plates could not protect from artillery and mortar shells.

The brit's utilized the tanks the first, they used their Mark I tanks at the Battle of Flers-Courcelette. Of the forty-nine tanks shipped to the Somme,

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only thirty-two were able to begin the first attack. Only 9 made it to the other side. As we all know the tanks have come a long way since but it is good to look back where it all started.

NAME StefOf course this was not the only technological advancement, the flamethrower was also a remarkable advancement. The modern flamethrower was invented in 1907 in Germany. The flamethrower proved itself a very useful tool in the war because it could kill a lot of people in close range combat. The idea of a flamethrower is to spread fire by launching burning fuel. There were many versions created by the Germans but two of the most used were: The Kleinflammenwerfer which was designed for single man use and could spray oil for up to 18 metres and the Grossflammenwerfer which was not designed to be portable, though it had double the range of the Kleinflammenwerfer. The flamethrower was first used during the first world war, in 1915, by the German soldiers. The flamethrower was used to occupy bunkers and dugouts in the trenches, without having to destroy them using grenades, because when they were occupied they needed to use the trench themselves and would otherwise need to rebuild the trench. NAME Marcol don't know if you can call this an advancement but it sure was a horrible thing being used in the first world war.

Maybe the most notorious weapon used in the entire war: poison gas. Both sides used it, and it had devastating effects. Some gasses made people blind, and others made soldiers drown in their own body fluids which killed them in minutes. Poison gas is one of the most nasty weapons used in the

first world war, because it was so hard to react in time, most soldiers either did not have a gas mask or were too late with putting them on. There were many different gasses used in the first world war.

The first one to be used was tear gas which wasn't a deadly gas but it was highly irritating. The first real large scale use of gas was in 1915 by the Germans. They used 18 000 shells full of Xylyl bromide, it was not what the Germans had hoped for though because instead of vaporizing, the chemical froze and failed to have the desired effect. The first deadly use of gas was with chlorine. Chlorine is a powerful irritant that can inflict damage to the eyes, nose, throat and lungs.

In return France had developed the gas phosgene. It was an odor-free colorless gas. It was deadlier than chlorine gas but it took 24 hours before the effects showed up. Therefore a combination of equal amounts of chlorine gas and phosgene gas were used which was called white star.

It was the second most used gas in the first world war. The most used was mustard gas, a nasty chemical which wasn't a good killing agent. It only killed in very high doses but it paralyzed the enemy. The skin of victims of mustard gas blistered, their eyes became very sore and they began to vomit. This was extremely painful. Fatally injured victims sometimes took four or five weeks to die of mustard gas exposure. After the first world war the use of chemical weapons was prohibited in by Geneva protocol signed by most of the countries who fought in world war 1. NAME Chris

war, machine guns were big, heavy, and required many soldiers for it to be operated.

This all changed in the first world war. Instead of using a mechanical system which was slow, the machine guns recoil was used to reload a new bullet, so it could fire faster and you wouldn't have to pull the trigger each time you wanted to shoot a bullet. Firing faster lead to the guns becoming hotter. To counter this they used water cooling to cool the machine gun down.

This also lead to the gun being able to fire even faster. It was not only useful on the ground but also in the air. The most convenient position for a gun was right in front of the aircraft, but this was not easy because there was a propellor in front. You would basically shoot yourself down if firing this way so they opted for an asymmetrical position on the side.

In 1916 the germans produced a reliable method of syncing the gun to the propellor so it could be mounted right in front without hitting the propellor. NAME JonathanThe plane had been around for about a decade, and it made a change in the war. For the first time in history, the aviation got a significant role. Planes were able to scout the enemy lines and bomb the enemy troops.

The first use of planes was to map the trench system of the enemy. They could also spot enemy artillery which they could then target and destroy. There was a lack of communication inside the aircraft. The aircrafts were typically equipped with a simple radio transmitter. They could only send in morse, and they could not receive anything while in the air. Air combat was

extremely rare in world war 1, initially it consisted of throwing objects like grenades or grappling hooks.

Eventually they put guns onto the aircraft. Pistols were not accurate so they used machine guns. In 1914 a french plane opened fire to a german aircraft for the first time.

The plane was not the only aircraft being used in the first world war, the Germans also used zeppelins for tactical bombing. NAME StefThe aircraft needed a place to take off of course but a runway was an easy target for the enemy so they developed runway which could move; aircraft carriers. A vessel on which planes could take off and land again. The aircraft carrier wasn't used much in the first world war, because the carriers were very primitive, and you could only take off on them. The planes had to land on the water, and then later needed to be retrieved. This was a slow process.

The first modern carrier was the HMS Ark Royal created in 1914. It was a converted merchant ship and could not house any wheeled aircraft. The first carrier to do so was the HMS Furious.

In 1917, the first pilot managed to land on a moving ship but was killed 5 days later attempting another landing on the ship. NAME MarcoPilotless drones were basically planes that could fly without a pilot in the plane. It was designed as an unmanned aerial bomb, which could destroy enemy vessels.

The first ones were controlled by a barometer and gyroscopes. The barometer could determine the plane's height while the gyroscopes were

used to keep the drone straight. The first drone was developed in 1918 as a secret project supervised by Orville Wright and Charles F. Kettering.

Commonly known as the "Kettering bug" it weighed 160 kg, could hold 80 kg of explosive material and had a range of about 120km. The mechanism to launch it was quite simple.

They determined the wind speed, direction and distance to the desired target. Then they just calculated how fast the engine needed to run and after a set time the aircraft dropped the bomb. In total 50 aircraft were made but the war ended before any could be used in battle. NAME JonathanThe war has also seen some technological advancements which were not meant to kill, for example the Mobile X-ray machine. many hospitals already had x-ray machines in the first world war but they could not be brought to the battlefield, Thus the mobile X-ray machine was created. One of the creators was madame curie who became famous for her work concerning radioactivity, which eventually lead to her winning the nobel prize in physics. She set up a team to bring x-ray machines nearer to the battlefield for the french army. They had converted vehicles to fit the x-ray machines.

Curie worked with the manufacturers of x-ray machines to develop machines that were portable enough to be transported. At the end of the war, she installed 18 x-ray machines in cars and trucks. IntermediateNAME ChrisApart from all of the advances made related to war machines, world war 1 also lead to the inventions of more everyday products of which many are still in use today. Many of these products were invented with the thought that it would make the life of the soldiers in the trenches easier so they could focus

on fighting. When the war finished the ideas were for the products were there and they became mass-produced and becoming available to the public. Part 2NAME SteffFirst being used by the red cross in world war 1 to clean wounds because it was highly absorbing, the sanitary napkin has remained to be used all over the world because nurses on the battlefield realised its benefits for their personal use.

It was made from a material called: cellulose cotton and produced by a then small us firm called Kimberly-Clark. They also developed a new kind of sanitary napkin called kotex, which was and still is being used by women all over the world. NAME MarcoAnother invention by Kimberly-Clark was Kleenex. The sales of the kotex towels did not rise fast enough so they decided to iron the cotton to make it smooth and soft.

After a number of experiments with these newly made tissues they were ready to be sold to the public. They became a huge success and that's why women are still using them today. NAME ChrisThe sunlamp was another invention that is still being used.

Although first intended for medical use it is now used for cosmetic purposes as well. In 1918 many children in berlin were suffering from a condition called rickets. It made the bones soft and deformed. Although the exact cause remained unknown it was often associated with poverty. One doctor called Kurt Huldshinsky noticed that the patients were all very pale and exposed them to UV-light.

This led to their bones becoming stronger again. It was later found that the cause of this condition was a lack of vitamin D which is produced by your body under exposure of UV-light. NAME Jonathan Every year we all turn back our clocks by 1 hour in the winter and then put it back in the summer.

Electricity could be saved because days take longer in the summer and lights aren't needed until late in the evening. The problem before was that it would be light outside when people were already asleep, and it would still be dark when people woke up. This was solved by shifting time by an hour to make more use of the daylight. However, this idea was not new.

Benjamin Franklin had suggested it in a letter to The Journal of Paris in 1784.

Here they would save on the use of candles instead of electricity. The idea was never actually used though. In world war 1 it was necessary in Germany because there was a coal shortage which led to the German people unable to light- and heat up their homes. After the war daylight saving time was abandoned but in world war 2 it returned but this time to stay. NAME

Stef One invention you probably wouldn't expect to be invented in the first world war are tea bags. In 1908 an American merchant started selling his tea in bags to his customers. One day a bag fell into some water and they realized that a bag could be used as well to make tea instead of using a filter.

A German company called Teekanne copied this idea and started supplying German troops with similar tea bags which they called "tea bombs". NAME Marco Wristwatches weren't invented for use in world war 1 only, but world war 1 was the time that they became popular. Large public clocks were just

impractical while small wristwatches were portable, light and did the same work as larger clocks. Before world war 1 most men kept a watch on a chain in their pocket. Wristwatches could be looked at quicker and thus were more practical during the war. After world war one they became the normal way to tell the time (until the invention of smartphones). In the war it was vital that everyone knew the time for many operations like bombings and attacks were planned in advance. It was essential that every step was executed at the exact right time to increase the success rate of missions.

NAME Jonathan In an ever changing world where we need to save our resources a lot of people are becoming vegetarian. Especially in the last decade there has been a rise in vegetarians so you might say that vegetarian sausages were invented pretty recently, but as with all inventions we have discussed previously, this dates back to the first world war. Late into the war, resources were scarce, especially meat. A man called Konrad Adenauer had the idea to substitute the meat with plant based food. As a replacement for the meat he used soy. His application for a patent in Germany was denied because by law a sausage had to contain meat. In England he managed to get his patent in 1918.

Of course nowadays many more plant based products are used to make vegetarian foods but the idea is still the same. NAME Marco Before world war one people kept searching for the perfect way to shut their clothing. Nothing was perfect. They often had hooks or clasps, and required holes in the other side of clothing which were prone to tearing or breaking.

Gideon Sundback invented a system he called a “hookless fastener”. We now know it as Zips. They could be opened and closed very quickly and were therefore very suitable for clothing used at the front. There, at the front, they became popular and after the war it became even more popular. NAME StefEver wondered where the name: “Silverware” came from? Before world war 1 they used silver instead of steel for their cutlery because steel would rust and silver wouldnt. This was an expensive solution though so stainless steel was a blessing for the middle class. It was initially developed for machine guns because they would deform over time. Adding chromium to steel made it resistant to rust.

It became more widely used after world war 1 for making cutlery and surgical instruments. ConclusionNAME ChrisTo summarize, World war 1 was one of the most terrible wars in our history. There was, however, one positive side: it gave people an incentive to invent new products to use at the front, so the soldiers could focus on the war itself.

Many of these products were innovative and are still in use today for their simplicity and usefulness. So the next time when you prepare some tea and then stir your milk with a stainless steel spoon, take a moment to think about where they've come from while you enjoy your cup of tea.