

## Chapter 1 : Royal Engineers - Tunnellers - A Test Forum - Great War Forum

*AN ENGINEER'S DIARY OF THE GREAT WAR is as if you've discovered your great-grandfather's trunk up in the attic, filled with his worn diaries, photos, tickets, documents, permits of his time with the 37th Engineers Regiment who maintained & repaired the mechanical & electrical equipment of America's Expeditionary forces in England, France.*

It is also owing to his success in this noble work of the missionary that the Tunneller is highly respected by all branches of the forces. For almost years before, and even after the invention of gunpowder and the inexorable development of artillery, it was a prime siege-breaking technique; indeed tunnelling is still employed across the world to the present day. The Great War, however, produced the greatest siege the world had ever seen, and its four years of stasis presented a conflict environment that perfectly favoured the skills of the military miner. By the end of May a continuous trench line, effectively an unbroken pair of fortress walls with no vulnerable flanks, stretched from the North Sea coast to the Swiss frontier. It was to grow into a huge network of defence-in-depth earthworks. With both sides equally well dug-in and deploying comparable troop numbers and armaments, neither was to prove strong enough to force a decisive breakthrough. Siege conditions demanded siege tactics: Royal Engineer practice mines being blown as part of a training exercise near Chatham, Kent in 1914. As the news spread up and down the line, alarm increased: Further German blows in the new year spurred the British to react with uncharacteristic alacrity. By March the first Tunnelling Companies had been formed and were at work in Flanders. By the close of that year mine warfare was more or less continuous wherever opposing trench lines lay within mutual striking distance. It had already become a hour a day, day a year operation. The man shown in the photo to the right is from Tunnelling Company, the first unit William Hackett joined before being relocated to TC in November 1914. A section of Tunnelling Company. REM By mid the British had around 25, trained tunnellers. Parts of the Western Front became labyrinths of underground workings. Those troops not directly involved in tunnelling including attached infantry were allowed to know little of the aims of a mining scheme simply because the gestation of such endeavours could be so long – well over a year for the Messines offensive of 7 June – and so arduous, that leakage of information might lead not only to the wastage of colossal effort and the ruination of a plan, but the loss of many lives in the most hideous of circumstances: Close relationships between tunnellers and their attached infantry were formed. Listening The tunnelling war was a game of blindfold cat and mouse. In every tunnelling company considerable numbers of specially-selected men were employed solely on this vital task. Using at first just the naked ear and subsequently sensitive technical devices, listening became a highly developed and efficient art. Installed at the end of their tiny gallery, a trained listener would take notes of the compass bearing and estimated distance of suspect sounds. The favoured British listening aid was the Geophone below. Employing two sensors a listener was able to ascertain the direction of hostile activity by moving the sensors until sound levels appeared equal in both ears. A compass bearing was then taken. When gauging distance only, both earpieces were plugged into a single sensor; this was a skill only gained by experience. By the end of the scale of mine warfare had expanded to such an extent that there were not enough listeners to man every post, and central listening stations were devised. Working electronically like a telephone exchange, the signals from up to 36 remote sensors Tele-geophones and Seismomicrophones could be distinguished and recorded by just two men. A sapper using a geophone. Military Mining Mines and Camouflets The ultimate effect of an offensive mine, an underground explosion designed to destroy a specific surface target, and usually forming a crater, was dependent upon the quantity, type and quality of explosive used, the nature of the soil and subsoil in which it had been planted, and the depth of the charge. During one thousand five hundred mines were exploded on the British front, but many thousands of lesser defensive charges were also blown. Known as camouflets derived from French mining terminology, these were small, controlled and localised underground blasts generally designed not to break the surface and form craters, but to destroy a strictly limited area of underground territory – and its occupants. Two basic techniques were employed. This was the preferred method in tough ground such as hard clay, or the resilient chalks of Picardy. The second method was more applicable in softer ground, especially in the sandy ridges and spurs of the

Ypres Ieper Salient. These were specially prefabricated self-contained explosive charges housed in a tube, designed specifically for this kind of warfare. Kept in a store at the rear of tunnel systems, at least one torpedo was always prepared for action, fully charged, primed with a detonator, and ready for instant use. Torpedoes were also used from shallow tunnels to destroy trenches and dugouts. Cylinder for bore-hole charges Heavier charges were also used to damage larger areas of underground territory, the purpose being to either destroy substantial sections of hostile tunnels and the occupants, or make the ground so shattered that it was difficult to work. These bigger blows often cratered the surface. Such tactics were used only in extremis, when the hostile threat was acute. This, therefore, was defensive mining, devised and adapted to protect ones own web of tunnels from enemy action. It came to be the main occupation of tunnellers on both sides. Thus a private and secret war was gradually created beneath the battlefields. With improvements in listening and defensive practices, successful offensive attacks against surface targets became less and less frequent. Most mine warfare came to take the form of a clandestine and barbaric battle with tunneller fighting tunneller with camouflets. Hand-to-hand fighting was also not unknown. Norton-Griffiths persuaded the military that this technique " and his men " were perfect for the clays of Flanders. By February , and as a result of continuing severe enemy mining action, the suggestion was at last taken up. Illustration of clay-kicking method. Progress was thus much faster than digging by hand. Most importantly, however, the technique was almost silent in its application. Digging with a pick or mattock demanded that the earth be struck, creating noise which could be heard by enemy listeners. The Germans never used clay-kicking as it was not a technique employed in civil engineering; indeed, it remained unknown to them for the entire war. German Pioniere thus continued to work with small " and noisy " mattocks. The contrast in digging techniques was a key factor in the ultimate Commonwealth dominance of the subterranean battleground in clay geology. Such teams became close-knit units and stayed together as long as injury, sickness or fate allowed. They were also responsible for timbering the tunnel. A sett consisted of four pieces of wood: The sole went in first, the legs next, and finally the cap. Progress was made one sett at a time " nine inches. To encourage drainage the tunnel was always built on a slight uphill gradient of between 1: It is likely that the five-man party of which William Hackett was a member were employing clay-kicking to drive their tunnel towards the German lines.

Johan Vandewalle Shafts The standard and most simple shafts were built entirely in timber and conformed to centuries-old designs. Although adequate in firm and dry conditions, the varying geological nature of the Flanders battlefields demanded new techniques to cope with the serious problem of bad ground, particularly the layer of quicksand known as the Kemmel Sands, an integral component of the geological make up of all the ridges around Ieper. For the Germans, occupying almost all the most advantageous positions on the ridge tops, this stratum was a serious headache. Tunnelling in the dry strata above the Kemmel Sands was simple, swift and easy, but sinking a shaft through the schwimmsands, as they were known the British called them running sands , to reach the dry and firm clay geology beneath, was found to be unfeasible: Believing that the British faced the same insoluble engineering problem, the Pioniere made few efforts to break through the schwimmsands until the spring of Tubbing arrived in sections which were bolted together to form a watertight tube. These were sunk through the wet sands see illustration above to the dry clay beneath either by the gravitational action of their own weight, or by jacks. Once the steel had reached the dry clay it was again safe to continue the work in timber. The system was quick, simple, strong, stable and waterproof " and allowed the British to delve deep into the Flanders clay in many places where their enemy believed it to be impossible. Critically, the British first used steel shafts as early as May " almost a full year before the Pioniere. By the spring of when the Germans were forced to sink watertight shafts in steel and concrete because the British had started blowing deep mines, the subterranean war was effectively lost to them. But the biggest killer was actually gas poisoning; not the designed toxic vapour variety used in cloud and shell form by troops on the surface, but carbon monoxide CO , an invisible, odourless and tasteless substance that was naturally produced by every explosive action " even the firing of a simple rifle bullet. In mines that broke the surface, or in the case of a shell burst, carbon monoxide quickly dissipated into the atmosphere; after an underground explosion, however, it is trapped " in the geology and in the tunnels. Mine rescue team equipped with torches, bellows, short-range breathing gear, Novita oxygen resuscitation kit, Proto apparatus, ropes and a canary in a cage.

REM Carbon Monoxide displaces oxygen in the blood. The process is cumulative, resulting in body tissues being gradually starved of oxygen and energy. Death, when it comes, is painless, gentle and insidious, but in the tunnels it was a terrifying prospect. With lowlevel concentrations men could be entirely unaware of its presence, allowing them to penetrate deep into a system before being affected. As little as 0. A concentration of 0. If the gas was present in large quantities, a tunneller could be unconscious in a matter of moments with little warning. The early symptoms were giddiness, shortness of breath and palpitations, with confusion following. There was then a loss of power in the limbs. When this stage was reached a little exertion would induce loss of consciousness. Tunneller descending a shaft wearing Proto apparatus. A mouse or a canary would already have been used to detect the presence of carbon monoxide gas. IWM In extensive mine systems galleries were fitted with regulator doors, effectively producing a series of airlocks. The spread of gas could therefore be isolated so rescue work was simplified and tunnellers in unaffected areas could continue to operate. For rescue purposes several forms of self-contained breathing apparatus were used. To achieve this Tunnellers employed the traditional practice of using canaries and mice. As both creatures have a much higher metabolic rate than humans, they are therefore more quickly affected by CO gas. Mice were superseded by canaries as signallers for their curling up in a corner of the cage was not sufficiently evident; a canary, however, was prone to fall off its perch, a more obvious indication of risk. The British eventually organised a highly developed system of rescue. In mining sectors no shaft was further than metres from a station. Proto-men named after the breathing kit they employed were highly trained, hand picked men, selected for experience and coolness under pressure.

Chapter 2 : A Daily Diary of the Great War – Library Muse

*AN ENGINEER'S DIARY OF THE GREAT WAR is as if you've discovered your great-grandfather's trunk up in the attic, filled with his worn diaries, photos, tickets, documents, permits of his time with the 37th Engineers Regiment who maintained & repaired the mechanical & electrical equipment of America's Expeditionary forces in England, France, Luxembourg & Germany during World War I.*

Now all roads lead to France and heavy is the tread Of the living; but the dead returning lightly dance. Belmonte Remembering World War I: In explaining why he enlisted, Dilkes, ever patriotic, said that "[e]very man must shoulder a weapon in defense of his home". For the rest of his time in the army, including service overseas in combat, Dilkes served in the 1st Engineers, part of the 1st Division. The ensuing battle, eagerly watched by Dilkes and probably thousands of other soldiers and sailors, involved transports with deck guns, destroyers, and airplanes. Order Now Upon safe arrival in France, Dilkes and his regiment underwent training that included construction of barracks and stables along with infantry training and tours of duty in the trenches. Dilkes, who applied several times for officer training without success, also attended a school on road building. During their tours of duty in the trenches, the men repaired trenches and barbed wire entanglements, fortified reserve trenches, and constructed and repaired dugouts. Dilkes statement gives one an inkling of the perils of such work: Loneliness had a way of magnifying the terror involved in such a trip: I felt relieved a bit, for, if wounded, there was aid; but when alone there is nothing but the stars to offer sympathy. Indeed, the book is replete with accounts of air raids, gas attacks, and artillery barrages, as well as stories of suspected German spies in French or American uniforms. He did his first real work in combat while the division was near Cantigny. There the men constructed "roads, observation posts, barbed wire entanglements, trenches, dugouts, and first aid stations. Mihiel, Dilkes and his company accompanied the infantry assault wave as wire-cutters. After the fighting died down, Dilkes helped set demolition charges to German items that might have appealed to souvenir-hungry Doughboys, but which could have been booby traps. During the Meuse-Argonne Offensive, Dilkes performed much the same types of duties, filling in craters and repairing and reconstructing roads. After the Armistice, the 1st Division became part of the Army of Occupation in Germany, and Dilkes describes his march to the Rhine bridgehead. Although happy with his treatment by the German family with whom he was quartered, Dilkes, in common with most Doughboys, was dissatisfied with his post-war army life. I considered my work finished with the signing of the armistice; now home and discharge were my cry". After his return home, Dilkes, using a diary he kept during the war, wrote his memoirs for his family. They have also included many General Orders and other commendations that were issued to either the regiment or the division. Memoirs of infantrymen abound; this book, however, helps us to remember that, amidst the patrols, trench raids, and artillery duels, the backbreaking work of the engineers in and just behind the front lines continued.

**Chapter 3 : 26th Field Company, Royal Engineers - A Test Forum - Great War Forum**

*An engineer's diary of the Great War. [Harry Spring; Terry M Bareither] -- Harry Spring kept detailed diaries throughout most of his life. Harry died in , but through his diaries he lives to tell us about his experiences.*

November 8 at 4: Last night it became clear that a nationally coordinated threat to unleash civil war was more than ideal talk. The revolutionaries demand that the Kaiser abdicate by lunchtime today, or accept the consequences of national revolution. This morning, officers have been listening to reports by senior officers. The message is unequivocal. If the Kaiser asks for their support in suppressing revolution, the army will not give that help. Despite resistance from Hindenburg and a few others, the Kaiser decides that he must abdicate as Kaiser, but commits to remaining King of Prussia and Supreme Warlord. The latter title, of course means nothing, and has meant nothing since Hindenburg and Ludendorff took over. With that business done, the telephones are taken off the hook and the ex-Kaiser goes in to lunch. After lunch, courage restored, the ex-Kaiser decides to retract his abdication. It is too late. Ex-Kaiser Wilhelm and his son, the ex-Crown Prince Wilhelm will board the royal train and cross the nearby Dutch border, there to await events and for the former immediately to regret his impetuous decision to go. However, even this journey becomes chaotic, with the train only getting half way to the border before it is decided that it is too easy to find and stop it, and capture its occupants. A smaller party takes to motorcars and crosses the border into Holland. The royal train will arrive, unmolested, soon afterwards. The Hohenzollern monarchy is over. Dukes of Prussia, Kings in Prussia, then Kings of Prussia, lately Kaisers of Germany, the family has ruled over its domains for centuries, but tonight is reduced to an undignified scramble for safety from the mob. In this diary the last word on the Kaiser goes to American author David Fromkin: He was wildly jealous of the British, wanting to be British, wanting to be better at being British than the British were, while at the same time hating them and resenting them because he never could be fully accepted by them. Here he occupied his time, and escaped his regrets, in relentless chopping firewood and cossetting his dogs, from which he will be inseparable for the remainder of his life See More.

**Chapter 4 : Canadian Great War Project War Diaries**

*An Engineer's Diary of the Great War by Terry Bareither Harry Spring kept detailed diaries throughout most of his life. Harry died in , but through his diaries he lives to tell us about his experiences.*

Already having served in the Boer War, the British woman had experience as a nurse. In , when assistants were being sought for the British Army in Belgium, she volunteered. In she witnessed the first gas attack at Ypres. Macnaughtan died on 24 July at the age of 51 years. After graduating, he became a journalist. Montague was anti-war and a pacifist - until the summer of Despite his 47 years, he volunteered for the war effort. After the war he resumed his journalistic career but retired shortly after in order to spend his old age as a writer. Charles Edward Montague died on 28 May at the age of 61 years. The well-known German artist was an avowed socialist and pacifist. But when the war began, the year-old could not avoid the patriotic spirit of optimism in Germany. Her son Peter volunteered for military service, marched into Belgium in and was killed in October. Between and , she studied music in Leipzig, but returned temporarily to Australia. From , Leipzig becomes her adopted home. When the war broke out, she found herself suddenly considered a foreign enemy. She was spied on and suffered from hunger and disease, but she was not allowed to leave the country. At 35 years of age Barthas was recruited into the reserve army. In the last days of he found himself on one of the most dangerous sections of the German-French front and experienced the horrors of trench warfare. After the war, he began work as a barrel maker once again. Barthas died on 4 May at the age of 72 years. Despite a hand injury, the year-old farmer was deemed fit for military service. Reluctantly, he had to enlist in early He was captured by the Russians during fighting on the Eastern Front. This was the beginning of a multi-year odyssey throughout the Tsarist Empire which only ended on 4 October Karl Kasser died in at the age of 87 years. For the young woman from a wealthy British family, it was only natural to serve her country through volunteer work. She becomes a guard in a munitions factory, where she is confronted with the terrible working conditions of the women there. Her date of death is unknown. At the beginning of the war, Marie and Paul Pireaud were a young couple. But the young farmer was separated for a long time from his wife, Marie, by the war. His only connection to her was the field post. In his letters he tells of the suffering of the soldiers at the front. After many years together with his wife, Paul Pireaud died in shortly before his 80th birthday. Your Death Would Be Mine: At the beginning of the war, Marie and Paul Pireaud were a happy, young couple. However, when her husband went to war, Marie had to do the hard work on the farm. In her very personal letters to Paul she writes about her jealousy and her great desire for intimacy, tenderness and a child. Later the couple give birth to a son. But there are unfortunately no grandchildren who might remember the love of the two. Marie Pireaud died eight years after her husband in September at the age of 86 years. After the emigration of his parents, he grew up in the United States. In the spring of , the year-old traveled with a ship full of volunteers who wanted to fight for their original homeland. He was forcibly consigned to a mental hospital with poor conditions characteristic of the time period, most particularly suspicion from the doctors that he was faking his issues to avoid the front. The then high school student, who later became a writer, signed up for military service in August At the end of , he was assigned to the front in France. He survived several battles before the end of the war in , including the bloody battles of the Somme. He died in at the age of years at the hospital in Riedlingen. Marina Yurlova[ edit ] Marina Yurlova was born in in a small village in the Caucasus. The daughter of a colonel of the Kuban Cossacks was just 14 years old when her father went to war in August In the search for her father, she became a child soldier in the Russian army at age She originally worked as a groom in Armenia; however, after two months of this she was sent to fight the Turkish Army. In she was wounded while blasting bridges across the Erivan River. In she was again wounded and also had a mental breakdown and was sent to an asylum. However, in she was released and emigrated to the United States. Yurlova published two autobiographies, Cossack Girl and Russia Farewell At the beginning of the war, the 12 -year-old girl, who lived with her grandmother, celebrated the German victories; but then Elfriede experienced how the war brought suffering and misery. She died on 29 March , at the age of 86 years. In , he had to experience the German invasion and beginning of a four-year occupation of his hometown. Later he

would become a Catholic theologian and cardinal. Yves Congar died on 22 June at the age of 91 years in Paris. The 14 main characters of the series are played by the following actors.

## Chapter 5 : An English Governess In The Great War: The Secret Brussels Diary Of Mary Thorp Download

*Roads to the Great War is part of the calendrierdelascience.com (link) family of websites and periodicals. It is produced by an editorial team, growing for over a decade, that includes: Michael Hanlon, Kimball Worcester, David Beer, Tony Langley, Donna Wagner, and Diane Rooney.*

It went overseas in September , taking with it many new recruits who would undertake their basic training whilst the Battalion formed part of the British garrison in Egypt. It saw action at Gallipoli from May until the evacuation at the end of the year and fascinating campaign is dealt with in considerable detail. The Battalion returned to Egypt until the spring of when it moved to France. The Manchesters saw regular action for most of , coming under attack in the German offensive in March. Throughout the summer and autumn, the Battalion took part in the Advance to Victory and was still advancing when the Armistice was signed in November. The author draws on official records and personal accounts to tell the story of these fine battalions. Richard van Emden Language: From his arrival in France and his participation in the Somme, through offensives at Ypres and eventual demobilisation after the Armistice, we see wartime life as it really was for the ordinary Tommy. In these journals, introduced and edited by bestselling First World War historian Richard van Emden, we witness the cheerful Albert Martin getting to grips with life in the trenches and, together with his comrades in the Royal Engineers, confronting the ever-present threat of injury and death. We also see the mundane reality of life at the front line - the arguments with superiors, the joy brought by the arrival of packages from loved ones at home and the appalling conditions in which that attritional war was fought. George Henry Coward Language: Troubador Publishing Ltd Format Available: Private George Coward was a survivor. He was one of the Old Contemptibles sent to France in August He tells a story written in diaries that he wrote in old school exercise books beginning from and finishing in University of Oklahoma Press Format Available: As a radio operator with the Headquarters Company of the th Field Artillery, he was in constant contact with French and British forces as well as with American troops, and thus gained a broad perspective on the hostilities. With clarity and compelling detail, Kniptash describes the experiences of an ordinary soldier thrust into the most violent conflict the world had seen. He tells of his enthusiasm upon enlistment and of the horrors of combat that followed, as well as the drudgery of daily routine. He renders unforgettable profiles of his fellow soldiers and commanders, and manages despite the strains of warfare to leaven his writing with humor. Because Kniptash was called to remain with the Army of Occupation in Germany after his unit was shipped home, his diaries cover the full extent of American participation in the war. Brian Douglas Tennyson Language: Although the United States itself did not enter the war until April , Canada enlisted the moment Great Britain engaged in the conflict in August of The Canadian contribution was great, as over , men and women came to serve in the war effort. Over , were wounded while near 67, gave their lives. The literature it generated, and continues to generate so many years later, is enormous and addresses all of its aspects. The Canadian Experience of the Great War: A Guide to Memoirs is the first attempt to identify all of the published accounts by Canadian veterans of their Great War experiences.

## Chapter 6 : Es Samrah | Diary of the Great War

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