

WAR under the EARTH

Terrible Hand-to-Hand Conflicts Are Waged Under Ground Whenever Opposing Parties of Miners Meet in Deadly Sapping Operations

BY W. B. SEABROOK.

American Field Ambulance Service.

MODERN warfare is carried on not only by land and sea, under the sky and in the air, but also under ground.

Subterranean fighting is perhaps the most nerve-racking of all, for it combines all the dangers of trench warfare with the additional horror of being blown up or buried alive in the darkness.

Hand-to-hand fighting with knives and grenades, in the dim light of miners' lamps fastened to the cap, deep down in converging tunnels beneath No Man's Land, is an almost daily occurrence on the western front.

These subterranean fighters are seldom mentioned in the war dispatches, but they often display the greatest heroism in the most desperate struggles to the death.

The objective of most underground warfare is the tunneling under and planting of mines beneath the enemy's trenches or machine gun emplacements. But the enemy is playing the same game, and sometimes, beneath the ground midway beneath the trenches, the tunneling parties meet.

A Desperate Adventure. Sometimes the miners of the opposing forces will be digging so close together that they suddenly become aware of each other's presence.

There is quick work with picks and shovels to break down the thin wall between, and then a desperate struggle to the death, with knives, grenades, even picks and shovel-blades—blind, bloody butchers' work in which no quarter is asked or given.

In some sectors, on account of the conformation of the ground, these mining operations become of primary importance.

In a certain sector near Verdun—it is permissible to give the names because the line has since materially shifted—there was a barren ridge just east of the town of Lea Eparges.

The French trenches were dug into one side of the ridge, while the German trenches clung, invisible, in parallel lines to the slopes on the other side.

The trenches were so close that artillery demolition was out of the question.

The ridge rose sheer between the trenches, where a goat could scarcely get a foothold, making rifle fire utterly impossible and going "over the top" suicidal.

The division to which our section was attached was sent to this sector to try to break through. The only way was by tunneling and mining.

A force of engineers, armed with power drills and other mining devices, was added to the pick-and-shovel workers and the digging commenced.

When the tunnel was half completed suspicious sounds began to be heard and it was discovered that the Germans were tunneling in the same direction.

The French suspended operations until the Germans had dug to within a few feet of them.

Finally, one night, as the French waited silently in the darkness, a German pickaxe pierced the last thin wall of earth.

Five minutes afterward the terror-stricken Hun found themselves in a death grapple with their enemies.

Not a shot was fired, not a man returned to the German lines.

Explosives were hastily carried through the tunnel which the Germans had themselves dug, and 15 minutes later there was a roar that shook the entire ridge. The whole hillside was literally caved in, and the German trenches for a distance of more than a hundred yards were engulfed as in an earthquake. Later operations were equally successful, and eventually the Germans were dislodged from the ridge.

Hundreds of similar dramas have been enacted along the western front, often on a tremendous scale.

The simultaneous explosion of 13 mines, containing something like 500 tons of high explosives, on the eventful day of June 7, 1917, will be remembered as one of the outstanding features of the great battle of Messines Ridge.

This achievement still stands as a record of successful mining operations on a gigantic scale.

Driving the Mine Tunnels. The British engineers were long in preparing for the stroke. A year before the actual battle they began to drive mine tunnels beneath the hills on which the Germans were entrenched. It was realized at that early date that the usual methods of bombardment and infantry attack would be of no avail, owing to the commanding positions held by the enemy.

The work was carried on slowly, but so successfully that on the eve of the great attack the Germans had no suspicion that the whole ridge beneath them was mined.

On the evening of June 6, following an intense artillery fire of several days, everything was ready.

That night a final inspection was made of the wiring and just before dawn the pressure of a single button simultaneously exploded the 13 mines, each a man-made volcano of terrific force.

The concrete emplacements and deep dugouts of the Germans, which had withstood the intense artillery fire, caved in like card houses with the terrible shattering concussion.

Some of the German troops survived the frightful ordeal, but they were so dazed by the immense cataclysm in its earthquake proportions that their resistance was ineffectual when the British troops stormed the ridge.

Mining operations on the Italian front have also been of gigantic proportions.

The nature of the topography in the Alpine fighting lends itself particularly to sapping operations, though it is usually necessary to carry them forward through solid rock.

Every invasion is known to modern mining science has been used to represent the last word in scientific tunnel engineering.

Perhaps their greatest feat was the blowing up of the mountain peak known as the Castelletto, in the Dolomite region, in which the Austrian forces were entrenched.

The Austrians had fortified the splendid natural position by carving out trenches and machine gun emplacements in the solid rock, and could not be dislodged, either by artillery or infantry attacks.

The Italian sappers made a tunnel more than 1500 feet in length through

the rocky mass of the mountain, employing pneumatic drills and blasting with military gelatin.

Finally many tons of high explosive were placed in the heart of the mountain beneath the base of the peak and the whole mountain top was blown off as if by the eruption of a long-extinct volcano.

The development of listening devices to detect sounds of enemy mining operations has been one of the scientific marvels of the war.

The first device was a rude microphone arrangement, consisting simply of a bayonet stuck deep in the ground,

turned against him and the allied military men and scientists have literally hoisted the German on his own petard.

The most successful mining operations in the whole war have been carried out not by the Germans, but by French, British, Italian and American engineers.

Scrap of News Filtering in From France Reassure London That Boys From West Will Bring Victory to Allies.

BY EDITH E. LANTON.

SOMEWHERE IN ENGLAND, June 16.—Usually the well-worn topics of food and clothes or hospital and canteen doings are absorbingly interesting, but just now our thoughts are mostly in France. We can manage to reserve enough brain power to get through our daily duties, but when we have time to think, what else can we think about but of our men out there?

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This Photograph Shows a Mine Being Successfully Exploded by the British Beneath a German Machine Gun Emplacement.



These Soldiers Are Enjoying a Card Game in a Dugout Fifty Feet Below the Earth. Shells Cannot Penetrate, but Since Gas Seeks Low Levels Masks Have to Be Worn.

ENGLAND A-THRILL AT NEWS YANKS ARE WITH TOMMIES

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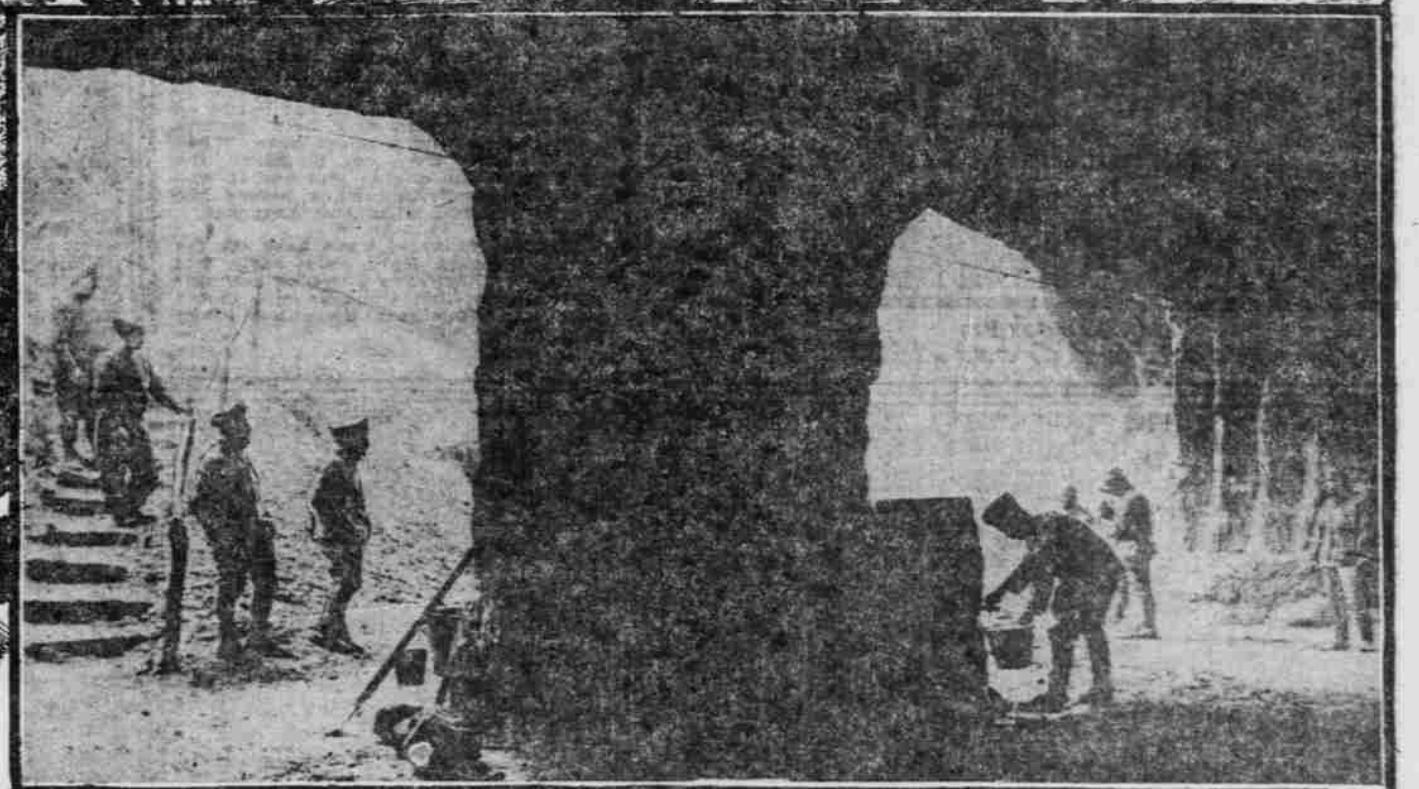
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Abandoned Quarry Utilized by the French as a Rest Station on the Front—This Subterranean Retreat Affords a Safe Shelter From Shells and Artillery Fire.

his mind may be kept free from battle, murder and sudden death as long as possible.

I have had another letter of appreciation and thanks from the mine-sweepers which I will forward to Portland knitters.

The three liberty loan posters which came in the last parcel have been much admired, particularly "Over the top for you." I lent it to the woman at the little shop at the corner to put in her window and help to lure in the American soldiers, who are very good customers of hers. I thought it might look like a little bit of home to them.

I am storing most of the knitted things until there comes a touch of frost in the air. New York, I suppose, feels quite thrilled to think that knitted U-boats are performing off her shores.

It is wonderful how soon the thrill goes off, though. One can get used to anything.

It must be a change to see the Great White Way darkened like the streets of London. But, as it will be a long-distance gun indeed which can shoot up Oregon from a German submarine in New York harbor, I presume Portland can still indulge in electric-lighted streets. American waters will prove most unhealthy for those U-boats and they will soon join many others of their kind sent to Davy Jones' locker by the British navy.

Postage has gone up, excepting on letters to those on active service, army or navy. Writing paper is getting scarce and expensive and very soon the luxury tax will be upon us. Then scented soap and perfumes, ultra chic hats and other things too numerous to be mentioned, will go up in price by leaps and bounds.

I must say that I consider perfume more of a necessity than a luxury to a nurse. One does like to breathe in something else than septic and antiseptic smells sometimes. For my part I always religiously change out of uniform and put some lavender water on my handkerchief as soon as I come off duty.

I do not like to carry around an atmosphere of ether, chloroform and iodoform whenever I go.

The only two things I've ever found that smell decent in hospital are red lotion and tincture of benzoin. Iodoform is certainly the most disgustingly clinging and all-embracing smell I know and it has a fiendish way of upsetting into one's apron pocket. Then the faintest, the moment one exclaims joyfully, "Hallo, nurse, you've tipped over the mustard."

One sister from the north always disparagingly spoke of saffron cake, a cherished west country dainty, as "iodoform cake," and it quite spoilt the taste of it.

In the accident ward we have a man with a badly fractured hip. His bad leg has been supported by sand bags

since it came off the splint. He is getting on well and one morning I found the sand bags had been discarded. I said, "Oh, you are getting on—no sand bags now," and he replied:

"No, nurse, you see I thought I had better spare those sand bags for the boys in the trenches." Cheerful people, our patients are.

I heard of an absurd remark a canteen worker, a voluntary dishwasher, made to a friend of mine who works in the canteen, too. Apropos of washing up, she said:

"Doesn't the disinfectant they use for washing up permeate the pores of the pots?"

She had been a V. A. D. nurse. Well, my pores feel permeated with disinfectants sometimes, especially the pores of my nose.

We are all getting adepts at the art of "making things do." When we get half a pound of butter instead of a pound to spread on the bread for the patients' tea, we are told we must "make it do."

We must make about a teaspoonful of methylated spirit cover an area of plate glass table top which really needs a teaspoonful—and may consider ourselves lucky if we do not have to use carbolic instead.

I went to tea at a cafe a few days ago, tired and hungry, after having been on duty all day. I ate up my allotted ounce and a half of food and then asked if I could have some more cake. The waitress reluctantly said "No," but suggested that I could have some tripe and onions instead, as they were not rationed. Even I did not feel as if I could make that "do."

The roses are beginning to come into bloom and make me think of Portland, but I do not think there will be such quantities as there are in the Rose City. As a matter of fact, hard though it is to believe it of England, we need rain.

I went to see an American soldier who is in hospital here a day or two ago and he was most touchingly glad to see someone who knew America. When he found out that I knew the Great Lakes naval station, well, he was quite excited, because he once lived near there himself.

We felt like old friends. He said he had everything he wanted and promised to let me know if I could do anything for him. Poor boys, I think they sometimes feel a bit homesick, although they never will confess it.

Next week they are giving a big garden fête at the hospital and the wounded soldiers will be in great form. They love anything like that.

My tiresome hay fever will prevent me from attending. Garden parties in June are not much in my line, in spite of inoculation. As long as I can stick to the hospital I can always get hold

of some chloroform or something to stop the sneezing.

One of our cases this week was an operation on a soldier's jaw. It reminded me of the first operation I ever saw, which was a jaw case in Chicago on the way over. I was a very green amateur then.

At the infirmary we get anything and everything from the most serious lying accidents down to children who have scratched their fingers or swal-

(Continued on Page 2.)

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