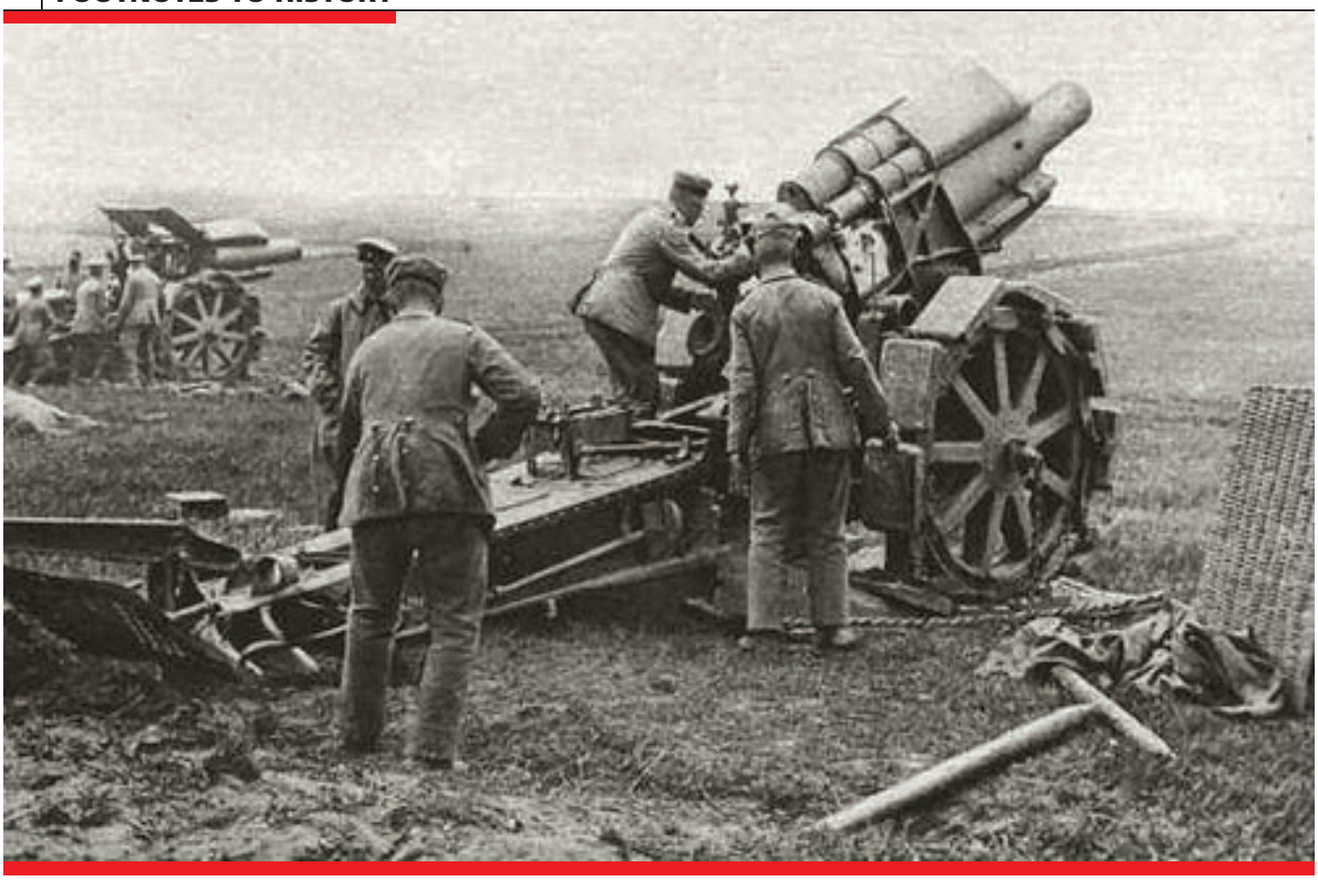

A German battery of 210mm guns setting up.

Hitting Your **Target**

Indirect Fire by Jim Hillestad

Fifty years ago, I was a field artillery surveyor attached to a 105 mm howitzer battery. When asked to write an article on "indirect fire," it was a trip down memory lane.

As the term suggests, indirect fire is used to hit targets behind a ridge or in a protected enclosure, not accessible to the "line-of-sight" firing of flat-trajectory cannon projectiles.

As a field artillery surveyor, my task was to triangulate the target, without seeing it, and to communicate its location to the firing battery. To do this, I used field maps, a non-digital survey instrument (aiming circle) and logarithmic tables.

One hundred and fifty years ago, during the Civil War, the tools that I had were in their infancy, or didn't exist. As for forward observers, there were none, and even had they been on location, there was no way for them to communicate the fall of shot to the artillery batteries. Such was the rudimentary state of indirect fire in the 19th Century.

The weapons used in indirect fire were howitzers and mortars; cannons (guns) fired directly at the seen enemy.

Howitzers were lighter than cannons and more easily moved about in action or transported on a march. Confederate E.P. Alexander who, in 1865, was brigadier general of artillery, said of howitzers, "I consider the 12-pounder howitzer the best gun for the cavalry service." Their primary shortcoming was their limited range. At Gettysburg, a 12-pounder howitzer had a range of 1,072 yards, while a 3-inch Ordnance Rifle (field gun) was effective at 1,830 yards.

Mortars in the Civil War

The 24-pound Coehorn mortar, named after its Dutch inventor Barron Menno van Coehorn, had a range of 1,200 yards at 45° elevation. It weighed 164 pounds and could be moved by four men to a firing position in a forward trench.

At the other end of the spectrum was the 13-inch "Dictator" which weighed 17,000 pounds and was mounted on a specially reinforced railroad car. It was used at the Battle of Petersburg, where it would lob a 200 pound explosive shell 2.5 miles.

BELOW
German 17cm Mortar crew. Note the crewman wearing the armor plate, probably the forward observer.

Mortars in World War I

The 17 cm Minenwerfer (mine thrower) was a portable mortar used by the Imperial German Army in World War I. The shells were loaded down the open muzzle-end of the launch tube in the normal muzzle-loading mortar fashion. The wheeled nature of the carriage allowed for the gun crew to pull the 1,065 pound weapon into position. When emplaced, the wheels were removed. It was capable of firing a 110 pound shell to a range of 325 yards. A trained crew could fire up to 20 rounds per minute. Despite its relatively short range, the Minenwerfer was very effective at destroying enemy fortifications, emplacements and battlefield obstacles.

The French Army reintroduced a mortar that saw service in the Franco-Prussian War of 1870. This mortar, identified as the 58/68 Type 2, was nicknamed "Crapouillot" or "little toad" based on its appearance. It would become the French medium mortar of World War I. It was similar in design to the German Minenwerfer, with the barrel and elevation mechanism attached to a metal carriage. It weighed 1,019 pounds and fired a 44-pound spigot bomb to about 1,500 yards.

Howitzers-World War I and World War II

The 210mm Mörser was a heavy howitzer used by Germany in World War I. For transport, the enormous weapon was broken down into two loads, weighing 15,496 pounds. It fired a 252-pound shell to a range of 10,300 yards (six miles). The Mörser went on to service in World War II, updated with a dual-recoil system that provided a steadier gun platform.

W. Britain has crafted detailed examples of these awesome indirect fire weapons, along with their artillery crews. They make intriguing focal points in displays and can stand alone as magnificent museum models.

ABOVE & BELOW
A comparison of the prototype German 210mm gun and our new model that will appear in the 2014 Winter catalog with 5 man crew and accessories.

LEFT
Our American Civil War 13" Seacoast mortar and 4 man crew, No. 31134.

RIGHT
A preview of our new 58mm French mortar which will be offered with a crew very soon.

Jim Hillestad is a frequent contributor to The Standard and is proprietor of The Toy Soldier Museum. His museum, containing more than 35,000 figures and a large collection of militaria, is located in the Pocono Mountains of northeastern Pennsylvania. For directions and hours, call him at 570 629-7227 or visit his website: www.the-toy-soldier.com