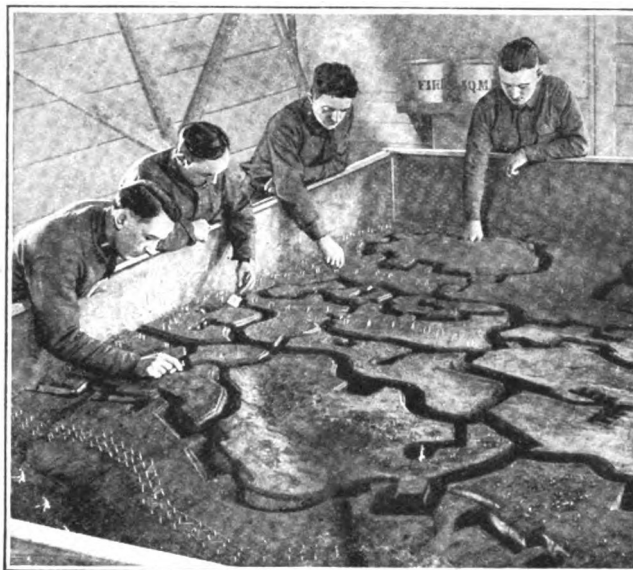


Studying Trench Warfare with the Aid of an Intricate Model

THE art of constructing entrenchments has become a science of hitherto undreamed of possibilities. Never before was trench war conducted on such a large scale. Its development, influenced by modern improvements and changes in weapons, tactics, and conditions, has become so intricate that a special course of study, embodying the principles and



A model of a modern trench system looks like a picture puzzle; but each kink and twist has a meaning of its own

endless details of trench fighting had to be devised for the officers and non-commissioned officers who are to enter service at the front. The accompanying picture shows how the non-commissioned officers in training at Camp Grant, Ill., are taught the intricacies of modern trench warfare by means of a model representing the most advanced ideas of trench construction as practised by the French engineers on the West front.

The trench-lines of the sector shown seem like a picture puzzle. Their apparently artless irregularity is not a matter of chance. It is based upon sound scientific principles, and there is a good reason for every kink and twist. The different features of trench fighting must be studied in detail.

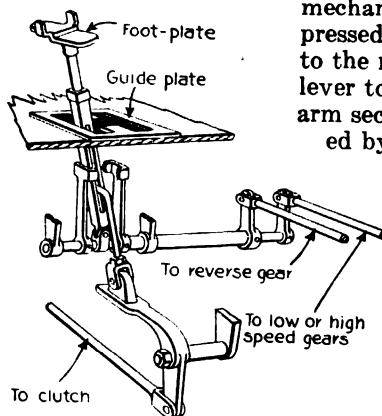
A Foot Operates the Clutch and Gear-Shifting Mechanism

THE clutch pedal and the gear-shifting mechanism have been so combined by E. R. Martino that the clutch will

always be out during the shifting of the gears.

Attached to the pedal is a rod extending through a pivoted tubular lever. Through a slot in the hollow lever runs an elbow rod which has a pivoted shoe resting on a rod controlling the clutch. When the driver presses

the pedal downward with his foot the shoe moves correspondingly, operating the rod attached to the clutch and throwing it out. The pedal, after it has been relieved of the foot pressure, returns to its former position, and a spring throws the clutch in again.



The clutch will always be out while the gears are being shifted

In order to adjust the speed mechanism the pedal is depressed and moved sideways to the right, causing the hollow lever to rest in a socket on an arm secured to a shaft connected by a lever with the speed gears. Then the pedal is released, throwing in the clutch, and moved forward or backward, according to the speed desired. Reversal of the automobile is brought about by pressing down the pedal and then throwing it to the left and forward.