Dec. 8, 1936. A. V. BARANOFF 2,063,536

APPARATUS FOR SIMULATING ARTILLERY FIRING

Filed Jan. 19, 1934

Fig. 1.

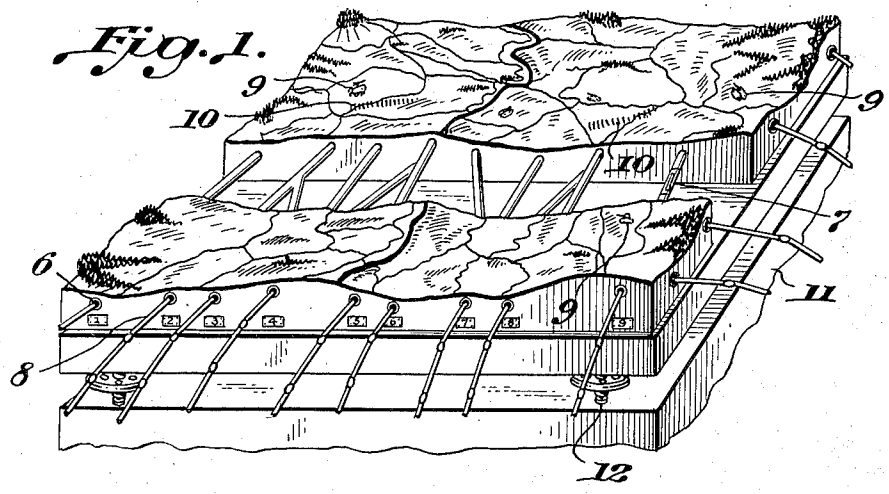
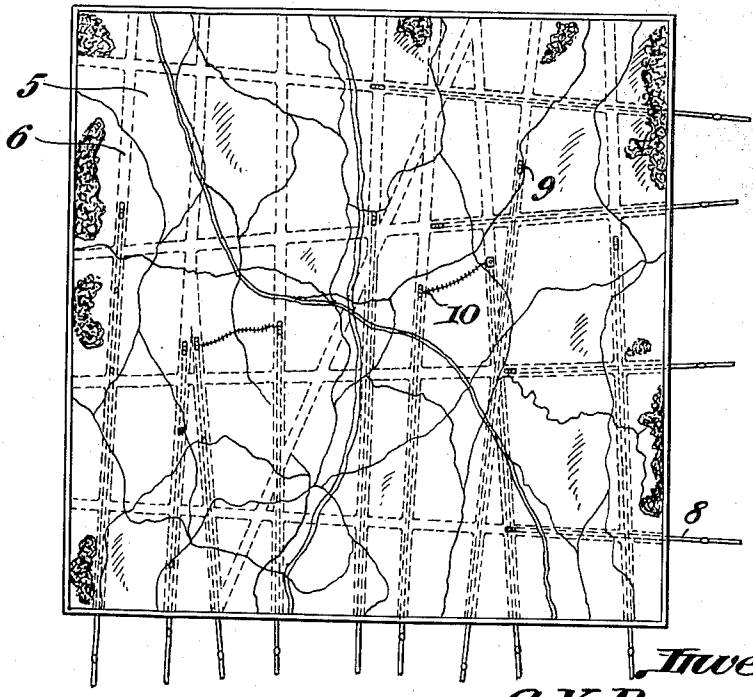


Fig. 2.



Inventor;
A. V. Baranoff.
Glascock Downing & Seebold
By Attys.

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APPARATUS FOR SIMULATING ARTILLERY FIRING

André Valentin Baranoff, Paris, France

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4 Claims. (Cl. 35—25)

This invention relates to demonstration or instruction apparatus for artillery fire instruction.

With the progress made in all means of warfare former systems of instruction and apparatus have become obsolete and a practically new art appropriately designated "mechanical gunnery", has arisen. In this art mechanism is called upon to make all calculations, eliminating the unreliable human element as far as may be. By the use of mechanical and optical arrangements "mechanical gunfire" is made to reproduce as far as possible the conditions of actual warfare.

The specific object of this invention is to provide as a field a simulacrum of a small area of the earth's surface with targets thereon and means for moving some or all of these targets in a manner which cannot be foreseen by any but the operator.

The invention is fully disclosed in the following description with the aid of the accompanying drawing in which:

Fig. 1 is a perspective view of the simulacrum, a portion between the tubes 15 and 16 of Fig. 2 being broken away to show parts of the operating device for the movable targets; and

Fig. 2 is a plan view of the same.

In order to reproduce in the area of fire the various targets on the battlefield, use is made of a simulacrum 5, two views of which are shown in the drawing. The simulacrum is supported on a table 11 (shown broken away) by means of adjustable supporting screws 12. The upper surface of such a simulacrum necessarily forms a relief map while its thickness is sufficient to permit the installation of tubes 6 which comform to the relief line of the ground and which extend entirely through the simulacrum. Within these tubes are small magnets 7 movable by means of flexible rods 8, 8' which extend outside the device. The sets of tubes comprise various crossings. The movements of the magnets in the tubes have thus a very wide range as by giving by hand a bias to a flexible resilient rod 8 its corresponding magnet may be guided into a crossing. By the movement of the magnets, the targets as hereinafter appear may be moved at varying or different speeds in numberless paths. Thus the target may evidently be moved to locations entirely unforeseen by any but the operator or its speed and direction changed at any moment without warning.

To this end the movable targets consist of small, soft iron blocks 9, representing on a small scale, tanks, batteries, motor trucks etc. The elements of infantry and cavalry 10 are represented by wires attached at their ends to soft iron blocks, and beads are strung upon these wires, representing foot soldiers marching in line as skirmishers. The operator may change the direction of march of these skirmishers by, through the agency of the magnet, moving the block at one end of the wire around the other more or less as a pivot or he may, through the agency of the magnets, move both blocks in the same direction bringing about forward or backward movement of the line of skirmishers.

As thus formed the simulacrum affords a field of fire with targets movable thereon in unpredictable manner and at unpredictable speeds from one location to another, reproducing with great exactness the conditions of the battlefield.

I claim:—

1. A device of substantial thickness the upper surface of which forms a relief map, representations of various objects movable thereon and means for moving said objects independently of each other and guiding means for said moving means.

2. The device as claimed in claim 1 in which magnetic means are used for actuating the targets.

3. A simulacrum of a small area of the earth's surface of substantial thickness, sets of tubes running in different directions and following the contour of the upper surface, magnets movable in said tubes, means for moving said magnets at will, soft iron movable representations of objects on the surface of said simulacrum whereby said representations may be made to execute movements in various directions.

4. The device as claimed in claim 3 wherein the means for moving the magnets consists of independent flexible rods inserted in the tubes whereby entire unforeseen movements may be impressed upon one or all of the representations.

ANDRÉ VALENTIN BARANOFF.