RAILGUN

By Corbyn Becker and Ethan Vorkink

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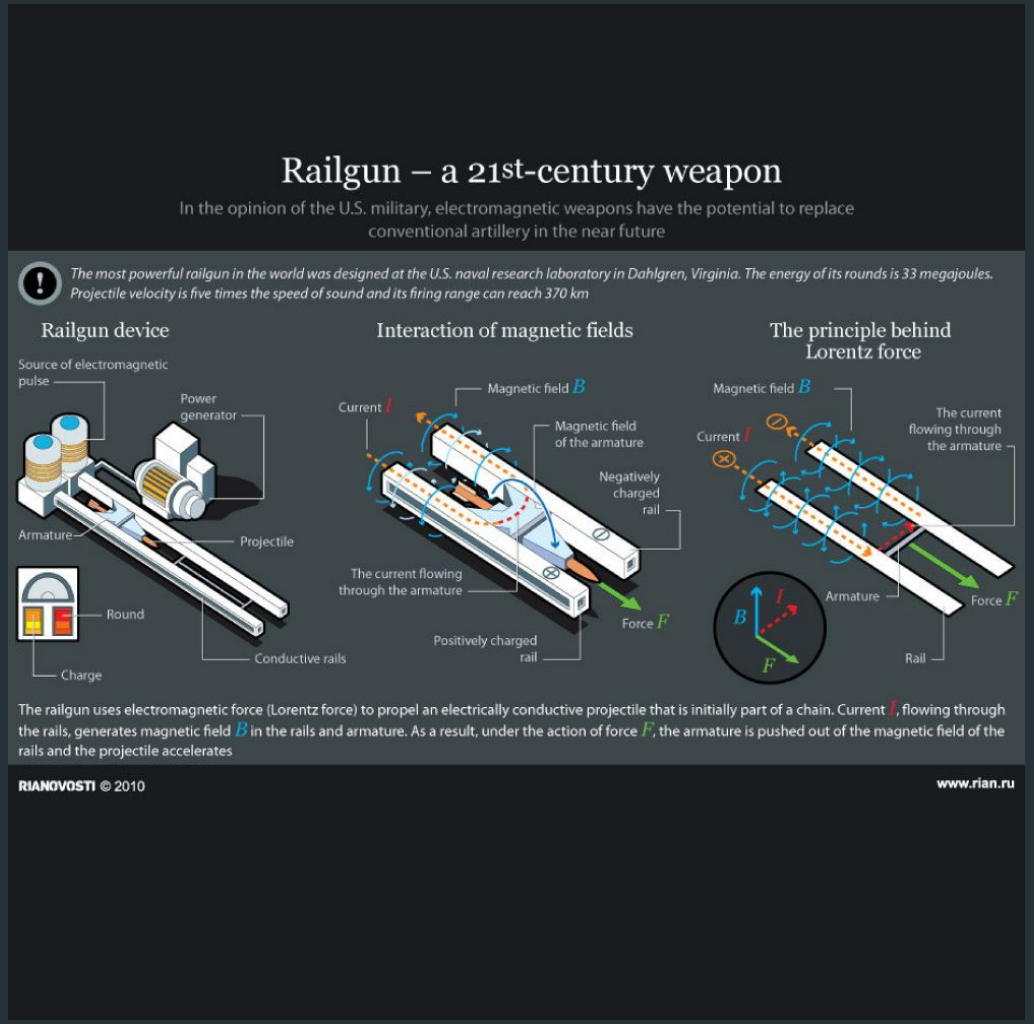
Summary

The railgun, invented in 1918, is a weapon that uses electrical power to shoot projectiles at hypersonic speeds, it uses electromagnetic forces to shoot the projectiles. It is made of 2 parallel conductors and a sliding armature is sped up with the electromagnetic force it goes down one rail, into the armature, and back up the other rail. The projectile is placed in the armature, in doing so, it completes the circuit. The projectile is just a projectile, nothing more. They contain absolutely 0 explosive aspect, and depend on the kinetic energy of the projectile to obliterate anything in its path. It travels upwards of 7 times the speed of sound.



History

The railgun was first thought of in 1918 by French inventor Louis Octave Fauchon-Villeple.

The first working railgun was made in Germany 1944

They were going to be mass produced as electric anti-aircraft weapons, but the power needed to run them would have to be equivalent to half of Chicago.

During 1950, an Australian physicist named Sir Mark Oliphant, started making the world's largest homopolar generator. It worked from 1962 and was used to power a large railgun that was a scientific experiment.

More History

During World War II, Joachim Hänsler of Nazi Germany developed a railgun concept, launching projectiles at a speed of 2000 m/s

As of yesterday(3/5/23), the U.S navy plans on using the rail gun they have been developing, for the primary use of shooting down stealth aircraft and hypersonic missiles.

Pros

Some of the advantages of the rail gun are…

- The railgun has a lot higher velocity then a normal gun so it is more accurate and it has a longer range.
- The railgun does not have any cartridge cases so it makes the gun smaller
- The railgun has smaller projectiles and an open breech so it has a fast fire rate
- In the eyes of the government the railgun projectile is relatively cheap

Cons

Some cons of the railgun include…

- Very power hungry
- Unbelievably strong
- High upkeep cost
- They break very fast, so they are usually one use only, or just wear down, so high maintenance.
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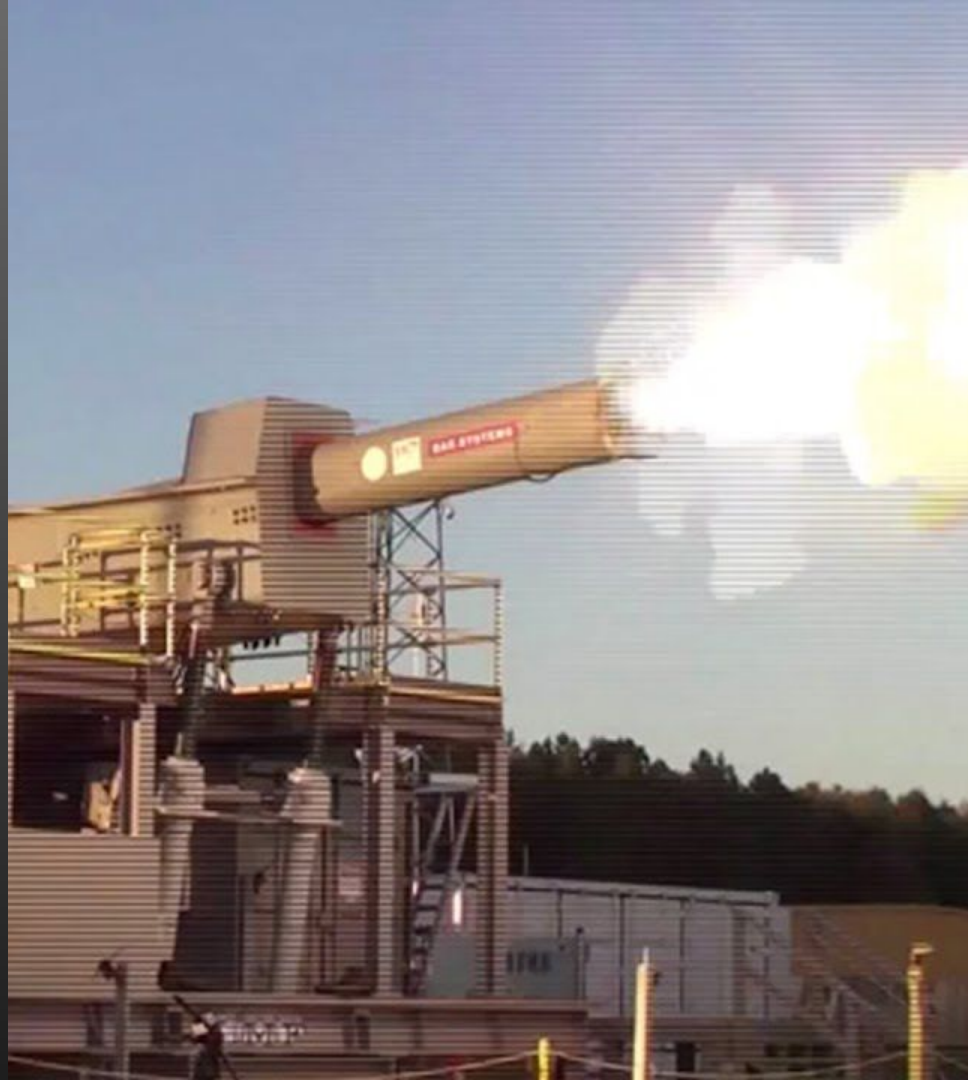
Implementations

- As of March 5, 2023 the Railgun will be used on warships and trucks to shoot down stealth aircraft, hypersonic missiles and satellites.



Excel Spreadsheet

Refrences

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