The gadget that ended the war in japan

Business

On August 6th, 1945, the Little Boy atomic bomb was dropped on the Japanese city of Hiroshima. Three days later, the Fat Man atomic bomb was dropped on Nagasaki, another Japanese city, to end the war in Japan. Most people realize that these two bombs were major turning points in World War II. However, not many people understand how the bombs actually worked. Those who do understand the inner mechanisms of a nuclear bomb would agree that the process of creating and detonating a bomb is quite complex.

The most important thing to know is how nuclear bombs actually put all of their energy into one powerful blast. The idea of the atomic weapon was first suggested by Albert Einstein during the beginning of World War II. He developed this idea by basing it upon the principles of nuclear fission. Nuclear fission is the process of making energy by splitting atoms. Neutrons are launched towards a large mass of protons and neutrons, otherwise known as an atom.

When the two objects collide, the force of the neutrons movement against the atom causes the atom to split into multiple pieces. These pieces are either made up of both protons and neutrons or just neutrons. The energy that is created when the collision occurs is given off as heat energy. This heat energy is what is used in nuclear reactors to generate electricity. Nuclear fission was the process that was used to detonate bombs in the 1940s and 1950s. The bomb itself used nuclear fission by launching neutrons against an atom of what is called uranium-235, which is a variety of uranium that has 92 protons (the mass number of uranium) and 143 neutrons (92+143= 235).

Uranium is very radioactive, which is why the explosion sites of nuclear bombs cannot be entered again without protective equipment for decades after the explosion. This type of uranium was found to be able to split quite easily and gave off vast amounts of energy. Scientists immediately began work on developing an atomic bomb at a research site in Alamogordo, New Mexico under the code name “ The Manhattan Project”. Scientists discovered that their nuclear bombs that they had developed could be detonated in one of two ways: by a uranium bullet or by an explosion within the bomb itself. The first method, which was used in the Little Boy atomic bomb on Hiroshima, has four steps that it goes through during the detonation. Inside the atomic bomb, the nuclear generator, located at the very tip of the bomb, was surrounded by a uranium sphere.

The uranium sphere is then surrounded by what is called a tamper, which is a substance made of uranium-238 that exerts pressure on the uranium sphere when it explodes, causing the neutrons to create larger and more powerful fission reactions. The uranium bullet is connected to the uranium sphere by a long tube similar to the barrel of a rifle. When the scientists detonate the bomb, explosives above the bullet explode, causing the bullet to be propelled down the tube and towards the uranium sphere. The bullet then strikes the sphere, initiating the fission reaction. The fission reaction develops, and the bomb explodes, releasing large amounts of destructive radioactive energy. The method of implosion was used in the Fat Man atomic bomb, which also went through four steps during its detonation.

This was a much larger, much more difficult bomb to build, as scientists faced several problems in trying to distribute the force of the explosion

equally within the bomb. The scientists developed a bomb that had a plutonium-239 core (94 protons + 145 neutrons = 239), surrounded by a uranium-235 sphere to act as a tamper. The tamper was then surrounded by explosives. The first step in the detonation was the detonating of the explosives. When these explosives were detonated, they created a shock wave. This shock wave was compressed inside the core by the tamper, which initiated the fission reaction and caused the bomb to explode.

These two bombs detonated on the cities of Hiroshima and Nagasaki, causing the Japanese to surrender. Thousands of lives were lost, and yet not many people know how, besides the fact that bombs exploded. In this new age, we need to acquire more knowledge of such basic things, or else such details will simply be forgotten forever.