

Archimedes Greek Mathematician

Born: c. 290 BC

Birthplace: Siracusa, Sicily

Died: 211 BC



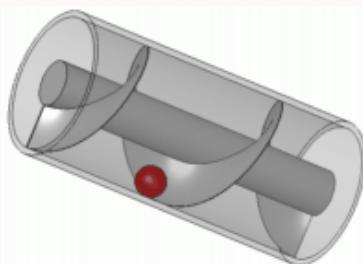
Archimedes Thoughtful by Fetti (1620)

Archimedes, who combined a genius for mathematics with a physical insight, must rank with Newton, who lived nearly two thousand years later, as one of the founders of mathematical physics.

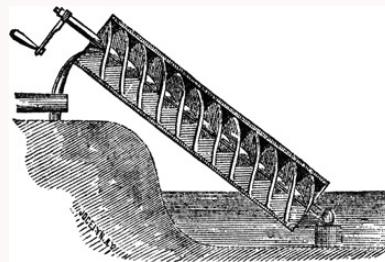
"Give me a place to stand and I will move the earth" was his boast when he discovered the laws of levers and pulleys.

Since it was impossible to challenge that statement directly, he was asked to move a ship, which had required a large group of laborers to put into position. Archimedes did so easily by using a compound pulley system.

The Archimedes' Screw consists of a screw inside a hollow pipe. The screw is turned usually by a windmill or by manual labor. As the bottom end of the tube turns, it scoops up a volume of water. This amount of water will slide up in the spiral tube as the shaft is turned, until it finally pours out from the top of the tube and feeds the irrigation systems. It was mostly used for draining water out of mines or other areas of low lying water.



During the war between Rome and Carthage, the Roman fleet decided to attack Syracuse, but Archimedes had been at work devising a few surprises.



There were catapults with adjustable ranges, which could throw objects, which weighted over 500 pounds. The ships, which survived the catapults, were met

with poles, which reached over the city walls and dropped heavy stones onto the ships. Large grappling hooks attached to levers lifted the ships out of the water and then dropped them.

During another failed assault, it is said that Archimedes had the soldiers of Syracuse use specially shaped and shined shields to focus the sunlight onto the sails to set them afire. This was more than the terrified sailors could stand, and the fleet withdrew. Unfortunately, the city began celebrating a bit early, and Marcellus captured Syracuse by attacking from the landward side during the celebration. "Archimedes, who was then, as fate would have it, intent upon working out some problem by a diagram, and having fixed his mind alike and his eyes upon the subject of his speculation, he never noticed the incursion of the Romans, nor that the city was taken. In this transport of study and contemplation, a soldier, unexpectedly coming upon him, commanded him to follow to Marcellus, which he declined to do before he had worked out his problem to a demonstration; the soldier, enraged, drew his sword and ran him through."

