Screw Encyclopedia Article

Screw

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The winch, pulley, lever, wedge, and screw are considered the five simple machines of antiquity. The discovery of the screw is usually credited to Archimedes, who used an enclosed screw or auger to lift and move water.

In his book, *Machanica*, Hero of Alexandria mentioned a screw-type machine that was used in the first century A.D. One such machine, an olive press, has been excavated in Pompeii, Italy, lending support for the theory that screws were in existence around 79 A.D. In the Middle Ages, screw-like battering rams were used to break through castle gates. In the thirteenth century, screw hoists were being used to raise loads, and towards the end of the 1400s screw jacks were used to lift wagon wheels for repairs.

By the 1500s, gun and armor manufacturers were using tools much like turnscrews to form and adjust their products. About the same time, craftsmen discovered that they could get a better seal between seams and joints if they gave their tacks and nails a twist. Once they were hammered in, they remained difficult, if not impossible, to remove. Soon, slots were cut into the heads so that they could be removed with a "screwpuller" or "unscrewer." Around 1780, toolmakers in London, England, introduced a screwdriver that also increased the everyday use of the screw.

Screw propulsion systems for boats and ships began appearing in the late 1700s, but did not become commonplace until 1838 when Swedish engineer John Ericsson successfully demonstrated propellers on a small ship named *Archimedes*. Around the same time, Cyrus H. McCormick built the first combine harvester (1835). Thought by many to have been the most important farming tool since the plow, the combine employs a system of enclosed screws and augers, much like the Archimedean screw, to harvest all types of crops.

Screws have now become so ordinary that they are hardly noticed. In some parts of the world, however, people still rely on screws for such basic roles as transporting water.