

Military Technology

Gunpowder or black powder is a fast burning or explosive compound made out of sulphur, charcoal and potassium nitrate. Gunpowder finds its origin in 9th century CE China, where it was mostly used for fire work. This original (crude) recipe was refined by the Muslim scientist a-Razi and al-Hamday in the 10th century CE. It was not until the 13th century that Hassan al-Rammah perfected the recipe for gunpowder in his book "Kitab Al-Furusiyya wa Al-Manasib Al-Harbiyya". The book of cavalry and ingenious war machines. It was this book that first revealed the right combinations for truly explosive gunpowder and its many uses. The book/manual goes on to describe some very ingenious inventions we still use today.

Torpedo

Currently known as a submerged explosive driven by a propeller. The very first torpedo was the "self-propelling and burning egg". This rocket driven fire bomb would skim over the surface of the water towards an enemy ship. The Nafta(thick oil) which was contained in a metallic casing(egg) would be released and detonate on impact. It is not known how fast or how heavy these torpedoes were. They were however powerful enough to puncture the wooden bow of a warship with its metal tip. The torpedo/rockets were provided with stabilizing fins for accuracy. The overall design included aqua and aerodynamic features.

Hand grenades

Naphtha (oil) was used to make fire grenades. Gunpowder was used to make explosive grenades. Small cylindrical ceramic jars were used as the containers. A cloth fuse would be ignited with an oil-lamp or torch before it was thrown. The first fire grenades were used in the 8th century CE and the first explosive grenades came along in the 13th century CE.

Round Fortresses and Castles

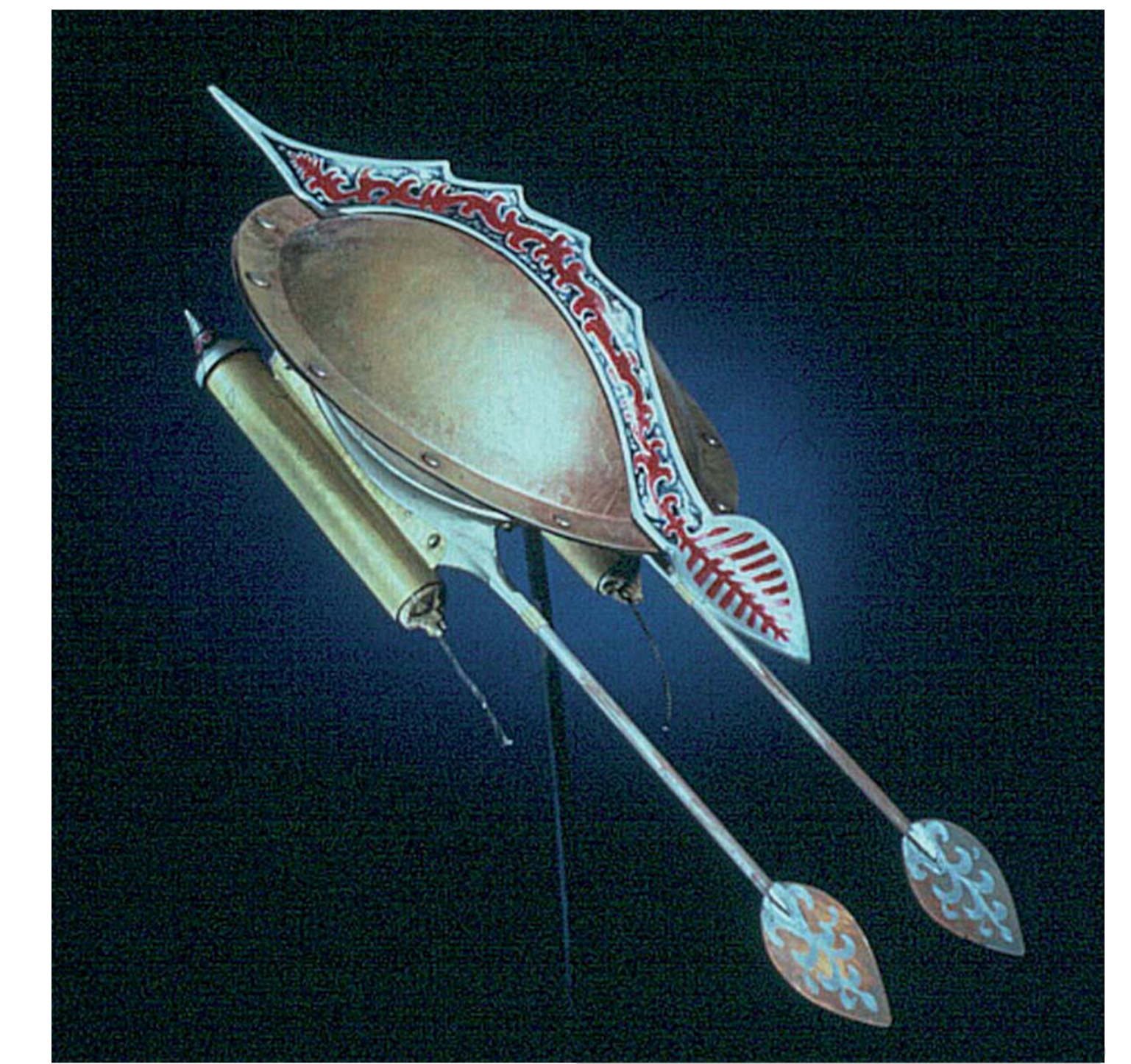
Muslim engineers and architects designed and build fortresses and castles with round walls and turrets. This made the walls stronger and reduced the weak spots for enemies to exploit. In the 11th and 12th century CE this defensive technology was widely used in the Islamic World. The Christian crusaders experienced how effective these round walls were and copied them in Europe after their many failed campaigns against Islam. Ironically this Islamic military technology became the style of later European architecture.



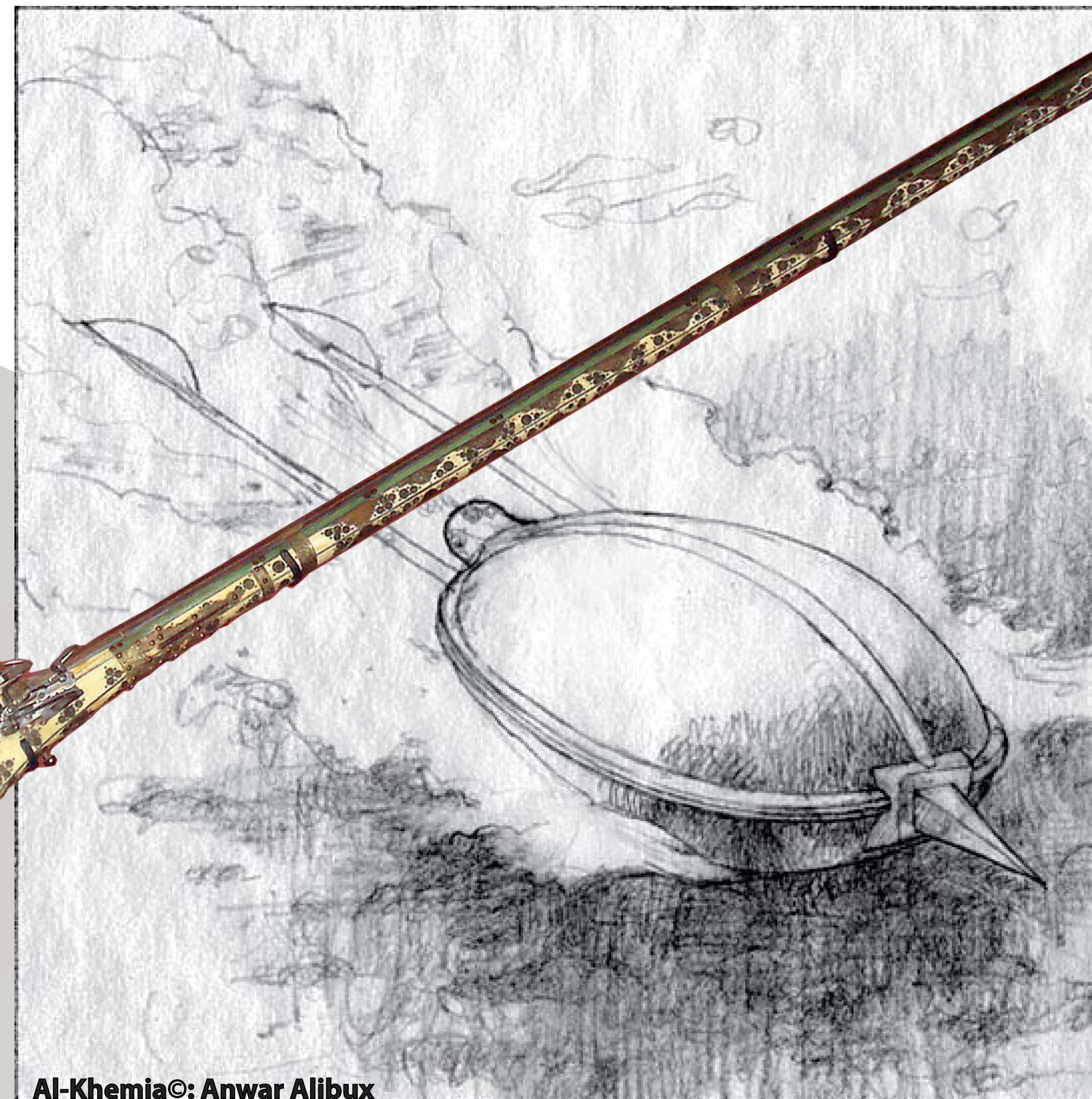
Hand grenades filled with nafta (oil). 8th century CE, Egypte.



Al Ain - Jahili Fort with round corner tower, India. 19th century CE.



Torpedo. Artistic replica from the book of ibn Hassan. 13th century CE.



Ottoman volley cannon. 15th century CE. Could shoot 9 cannon balls of 15 kg per shot.

