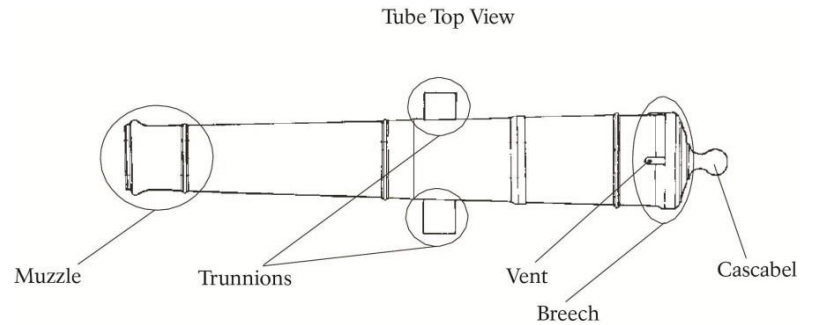
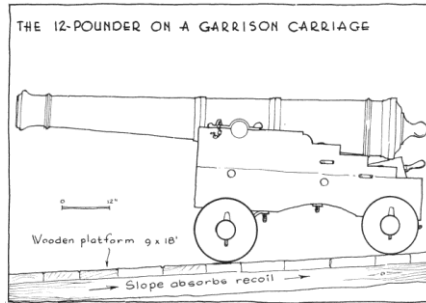




## How Does A Cannon Work?



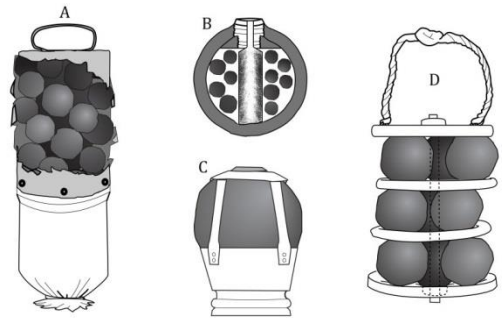
### Introduction

People have been fascinated with guns since the invention of artillery in the Middle Ages. This basic guide explains how 18th century cannon operated, and the types of projectiles they fired. The guns are muzzle loaders; everything entered and left through the front. The gun has two basic components: the tube (either bronze or cast iron), and the carriage. The tube rests on the carriage, which supports it for firing and controls *recoil* (energy released when the gun fires). Altogether, this weapon is called a *piece*.

### Smoothbore

Smoothbore guns typically fired spherical projectiles; the classic round cannonball. Ammunition consists of five kinds: solid shot, shell, spherical case shot, canister, and grape shot.

**C. Solid shot** are used for puncturing walls, buildings and ships. When heated they become hot shot, used for starting fires. Shells are hollow, with a charge of gunpowder inside. The powder is ignited by a timed fuse, which lights when the gun is fired. Shells are generally used to set fires or as anti-personnel.



**B. Spherical case shot** are similar to shells, but also contain shrapnel (musket balls). These are anti-personnel rounds, timed to explode in front of the target while airborne.

**A. Canister** and **D. grape shot** turns a cannon into a shotgun, killing men and destroying objects alike. Grapeshot was typically restricted to naval vessels or coastal batteries.

### Fort

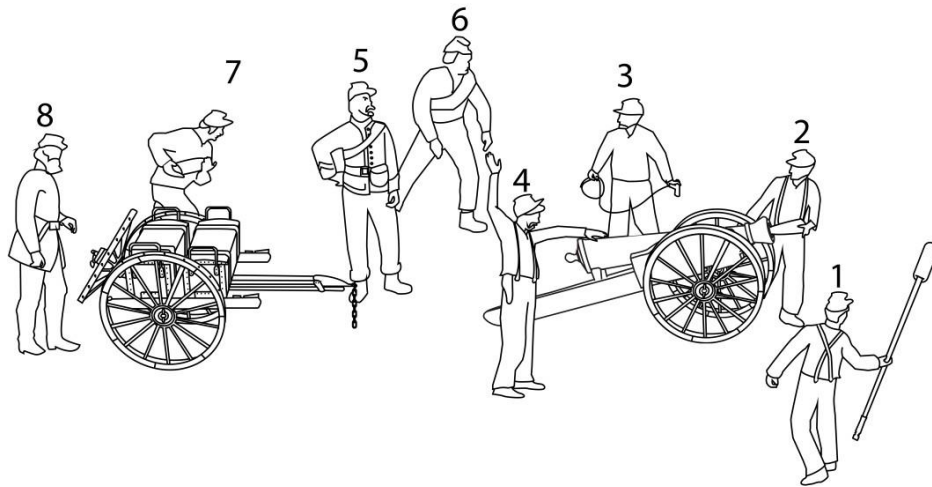
In 1739, Fort Frederica was defended by 15 pieces of cannon, primarily of the 12-pounder variety. The first of which were placed in the spurwork (now eroded away). The guns themselves were mounted on carriages built atop wooden platforms that prevented the pieces from sinking into the soft sand. In 1741, Fort Frederica saw the arrival of 18-pounders; these larger, more powerful cannon were more capable of dealing serious blows to enemy ships.



**Ready...**  
**Aim...**  
**Fire!**

The basic firing procedure for an 8-man crew: Crewmen took their positions as in the diagram below. The gun was aimed by the senior gunner. Direction of shot was achieved by maneuvering the gun trail by means of handspikes and brute force left and right. The barrel was then aligned with a "tangent sight". Once aimed, the "spongeman" (1) swabbed out the barrel with a wet "sponge", a rammer with a fleece nailed on to the head, to clear the barrel of any smoldering residue from the previous shot which might ignite the next charge.

During sponging, the "ventsman" (3) put his thumb, encased in a leather stall, over the vent at the sealed end of the barrel to prevent air which might cause smoldering material to blow back. The fifth crewman (5) received a round from the crewmen at the limber (6 and 7) who then carried the munitions to the second gunner or "loader" (2). The loader then inserted the round into the muzzle of the gun, whereupon the spongeman reversed his tool and pushed the charge down the barrel with the rammer end. The ventsman then inserted a "pricker" down the vent to puncture the cartridge, and then filled the vent with priming powder, to establish contact between the charge in the barrel and spark which would ignite it.



The "firer" (4), waited until the others had stepped clear before igniting the charge in the vent with a "instock" or "portfire", a length of burning slow-match on a stick. This ignited the gunpowder in the barrel which exploded, sending the projectile on its course and caused the gun to recoil. The process was repeated, as the gun had to be re-aligned after every shot unless the enemy was near point-blank range...

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**Modern Era**

With the disbanding of Oglethorpe's regiment, all but one 12-pound cannon was removed. Some of the guns were taken to Fort George on Cockspur Island and Fort Morris near Sunbury in 1762 and 1776, respectively.

By the end of the 19<sup>th</sup> century, the United States had upgraded coastal defenses with breech-loading steel guns. These guns were easier to load, had far greater range and accuracy and were more efficient than their predecessors. The age of the old muzzle loader was at an end.

Today these guns are artifacts, preserved for all to enjoy. They are displayed whenever possible in their original style settings and mounts.

**For your safety, no climbing is permitted on the guns, carriages**

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