

From Muzzle-Loaders to Breech-Loaders

Until the nineteenth century, almost all guns were loaded from the mouth of the barrel, called the “muzzle.” The gunner poured gunpowder into the muzzle, added a musket ball or other projectile, tamped the mixture down with a ramrod, then leveled the weapon to fire. This made loading and firing a slow and cumbersome process.

Firearms that loaded from the back (called “breech-loaders”) had existed since at least the sixteenth century. They were faster and easier to load, but they tended to crack or burst under the force of the exploding charge. That problem was solved in the nineteenth century through advances in metalworking and the development of cartridge ammunition. Breech-loaders have since become the standard in firearm design.

Most modern ammunition can be described as a cartridge that contains a bullet, gunpowder, and a percussion-sensitive ignition device. Many firearms can hold several cartridges at once in an internal or external “magazine,” greatly increasing their rate of fire. Because cartridges allow for the quantity of gunpowder to be exactly standardized, they also inflict less wear and tear on a gun barrel than firing with loose powder.