

The invention of the revolver history essay



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Revolvers are repeating firearms that consist of a cylinder containing multiple chambers, with at least one barrel for firing. The name “revolver” comes from the short-form of its original name, “revolving gun”. As its name suggests, the revolver is uniquely designed such that the chambers of a revolver “revolve” around an axis.

2. The Invention of the Revolver

The first inventor of the revolver was Elisha Haydon Collier. Collier invented the flintlock revolver, which was a single-action, self-priming weapon with automatic release of gunpowder into the pan when the gun hammer was cocked. Patented in 1818, the flintlock revolver’s single barrel allowed greater accuracy and faster reloading time (Shaver, 2004).

Today, the revolvers that we are familiar with are an adaptation of Collier’s revolver. One of the most significant pioneers in revolver technology was Samuel Colt. There are many variations as to how Colt first came up with the idea for his revolver, ranging from an eureka moment while shooting whales, to stealing Collier’s idea in India (Hosley, 1996). Colt patented the percussion cap revolver in December 1835, which enabled muzzle-loading firearms to fire reliably regardless of weather. This was an improvement from Collier’s flintlock revolver, which was prone to misfire in wet weather. The shooter would load the chambers of the cylinder with gunpowder and a projectile, and put in place several percussion caps. While this loading procedure might be tedious, it allowed the shooter to have rounds fully prepared ahead of time (Harris, 2011).

Bullet cartridges were soon introduced in revolvers in the 1870s, replacing gunpowder and caps. The cartridges are a combination of a projectile (the bullet), a propellant (gunpowder) and a primer (the explosive cap), all contained within a metal casing.

3. Evolution of Revolvers

3. 1 Type of innovation

3. 1. 1 Product Innovation

The first revolvers invented by Collier were a product innovation. The patent was bought by John Evans and Son of London. It manufactured about 10, 000 revolvers to sell mainly to the British forces in India and they are embodied as its outputs (Flemming, 2012).

3. 1. 2 Incremental Innovation

Before the revolvers were invented, other types of handguns such as the single shot and multi barreled pistols existed. Revolvers improved on these handguns and hence were an incremental innovation.

Firstly in the past, guns were mostly limited to a single shot except the pepper box however it was heavy and difficult to load since it had multiple barrels for each bullet. The revolver has the capability to deliver multiple loads to a single handgun barrel in quick succession (Delman , 2010).

Revolvers are also different in terms of having lower chances of malfunction and thus provide greater reliability. Rounds which fail to fire can usually be cleared by merely pulling the trigger which will cycle the cylinder and place the next available round in a firing position (Riverwalker, 2009). Several

malfunctions are however common in pistols that require more complex methods to clear them.

Revolvers also have a sturdier design due partly to their heavier construction which allows them to shoot more powerful rounds (Riverwalker, 2009).

3. 1. 3 Component Innovation

The revolver is a component innovation since its major change in handgun design is in creating a rotating cylinder which would come into alignment with a single barrel to fire successive bullets (Harris, 2010). Collier combined this with a flintlock mechanism to create the first revolver.

3. 1. 3 Competence Enhancing vs Competence Destroying

Originally, Collier's flintlock revolver was competence enhancing for John Evans and Son of London. However the revolver had several problems and by the 1840s, Colt's Patent Fire Arms Manufacturing Company had adapted the revolvers based on the percussion cap system and mass produced them. This was competence destroying for Collier's company while competence enhancing for Colt's (Delman, 2010).

3. 2 Mechanics of the Revolver

Over the years, the revolver has been constantly evolving and many different variations of the revolver have been invented. Despite this, the fundamental design of the revolver still remains the same, with several firing chambers arranged in a circle in a cylindrical block. This differs from other repeating firearms that use a single firing chamber with a different mechanism to load and extract cartridges.

In modern revolvers, there is a spring-loaded hammer located at one end of the cylinder, in line with the barrel (Fig. 1). By cocking the hammer back, a new cartridge is lined up between the hammer and the barrel. To release the bullet, a pull of the trigger would result in the spring throwing the hammer forward so it hits the primer at the back of the bullet. The primer explodes, igniting the propellant and driving the bullet down the barrel.

Macintosh HD: Users: helpdesk: Desktop: Screen Shot 2013-03-02 at 1. 21. 04 AM. png

Figure 1

The inside of the barrel is lined with spiralling grooves, which increases the stability of the bullet by spinning it. A longer barrel not only improves stability, but also increases the speed of the bullet.

3. 2. 1 Actions (Mechanism)

Single-Action Mechanism

“ Single-action” revolvers are revolvers that require the user to cock the weapon manually. The act of pulling back the cock rotates the cylinder and the user can then pull the trigger to fire it. Colt’s original revolver design involved a ratchet and pawl mechanism to hold the cylinders in place.

Double-Action Mechanism

Most revolvers today are “ double-action” revolvers that perform two functions: cocking, and then firing the gun. Robert Adams, a British gunsmith, invented “ double-action” revolvers in 1851. In this mechanism, pulling the trigger halfway automatically rotates the cylinder and releases the cocked hammer. Pulling back the trigger even more releases the cocked

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hammer. This would allow the user to fire the “ double-action” revolver in one trigger pull.

3. 3 How it has evolved

4. Uses & Applications

4. 1 Self Defence

In the US where private gun ownership is legalized, a third of all gun sales can be attributed to handguns, including revolvers (Harris, 2013). Many Americans choose the revolver as a self-defense weapon due to its ease of use, maintenance and general reliability. To fire a revolver, a novice gun owner merely needs to aim and pull the trigger for double action revolvers or cock the hammer and then pull the trigger for single action revolvers. Their simplicity in design allows an average person to shoot safely and competently without much training. They are also relatively more affordable and sustainable due to the ability to withstand neglect (Riverwalker, 2009).

4. 2 Combat & Military

The revolver was first adopted in combat by the Texas Rangers against the hostile native Indians who outnumbered them in Texas (Brown, 2013). Later on it was introduced into the U. S army in 1846 when the Mexican War began as Capt. Samuel H. Walker collaborated with Colt to design a novel and more powerful revolver (Colt Defense LLC, 2013). Throughout US military history up till 1985, revolvers had been the standard firearm, to arm the soldiers on battlefields such as during the Civil War, World War I and II. Although later on they were replaced by higher ammunition and faster reloading semi-automatic pistols, today they continued to be employed largely by guards,

Navy Shore Patrol, and intelligence and counterintelligence operatives (Olive-Drab, 2013).

4. 3 Sporting & Hunting

Handgun hunting has become a popular sport and most hunters use revolvers since they provide the reliability needed to hunt all types of big game (Hampton, 2013). Hunting with revolvers is more challenging and hones a hunter's skills since the guns have comparatively shorter sight radius and less powerful ammunition. Hunters must also stalk closer to the prey to kill it humanely and this gives it greater chance of escaping from the hunters. A significant amount of practice is required to develop accuracy and marksmanship in revolver hunting (Wilson, 2010).

4. 4 Law Enforcement

Since the 1870s American police forces have relied on revolvers to arrest criminals and protect civilians. The most popular revolver used in law enforcement history was the Colt Official Police invented in 1927 which sold up to 400, 000 units by 1970 (Scarlata, 2011). It was the top choice across numerous American police departments for one third of a century. Although production of this model has ceased today, other types of revolvers still play a significant role as back up and off duty firearms among American police officers.

5. Impacts of the Revolver

5. 1 Military

As an important tool for the military, the revolver has transformed major warfare in history and especially assisted in westward expansion.

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In the American Civil War in 1860, revolvers were one of the new and powerful weapons that forced armies to change their battle techniques. The Lemat and Colt revolvers were the most common firearms used. For example, Samuel Colt alone produced 200, 000 of his guns for the Union and Confederate troops (Elbehri, 2010). These guns were more accurate and required less time to reload since they could fire multiple shots at one time. Combat at the time occurred at short distances and cavalymen had to charge into formations of the enemy and use firearms and sabers to disrupt them and spread panic. At close ranges, revolvers were very powerful and handy especially while the cavalymen were in saddles. This allowed armies to attack enemies more easily and aggressively.

After the war, the US military adopted the Single Action Army revolver as the standard firearm and they aided the front troops to fight in the Indian war, Spanish-American War and Philippine-American War (military factory, 2011). In World War I, although the Americans had started switching to semi-automatic pistols, the M1917 revolvers continued to play a key role in filling the urgent need for guns. The British-made Webley revolvers also served as the standard sidearm for British soldiers in the war (Lewis, 2012). This sudden popularity in the armies was due to the revolvers' small size which allowed airmen and tank operators to be armed under their space constrained environments (Duffey, 2009). Additionally, given its sturdy design and dependability, it was ideally suited to muddy and adverse conditions of trench warfare (Lewis, 2012).

In World War II, the British and American troops continued using .38 calibre revolvers until finally afterwards, semi-automatic pistols replaced the revolvers in most militaries worldwide.

5.2 Societal Impacts

Due to the strong gun culture that exists in U. S., this report will only be studying the societal impacts that revolvers have caused in U. S.

Among the developed countries in the world today, U. S. has the highest number of gun owners. About 9 in 10 Americans own more than 270 million guns (Alpers, Philip and Wilson, 2013). That is 5% of the world's population owning 35-50% of the world's civilian-owned firearms, of which around 30% are revolvers (Stray, 2013). Sadly, the U. S. is also well known for clinching the highest number of gun homicides. The points below illustrated how the gun industry has severely impacted the society.

Homicides

Gun-rights advocates might be right when they argue that there might not be a connection between level gun ownership and homicide. However, numerous surveys and studies have concluded that there is an association between the number of homicides and gun ownership in developed countries. A study by Hemenway found that U. S. firearm homicide rates were 19.5 times higher than other developed countries (Kenny, 2013).

Accidental Deaths

In addition, unintentional firearm deaths in the U. S. were more than five times higher than in the other countries. Among these 23 countries, the U. S. accounted for 80 percent of all firearm deaths; 87 percent of all children

under 15 killed by firearms were American children. Homes with guns are 12 times more likely to have household members or guests killed or injured by the weapon than by an intruder (Kenny, 2013).

Self Defense and Reassurance of Safety

However, the revolver Data from the National Crime Victimization Survey suggest that a gun is used in self-defense about 60, 000 to 120, 000 times each year. Several other surveys confirm this estimate.

Facilitating Crimes

each year about a million violent crimes involve guns

This means guns are used to commit a crime about 10 times as often as they are used for self-defense.

5. 3 Government

5. 3. 1 Laws & Policy – Making

The Federal legislation enacted the Gun Control Act in 1968 that defines who was not allowed to possess a gun and barred anyone under 21 years old from buying handgun. However, they guarantee the right to gun ownership by law. There are restrictions though. The National Firearms Act of 1934 restricts civilians from owning automatic weapons, short-barrelled shotguns, hand grenades, and other powerful arms without appropriate registration. People are free to carry guns both openly or hidden, outside, with the exception of federal facilities where guns are prohibited. The buyer of firearm is not obliged to allow official background checks before taking possession of guns. However, the Brady Handgun Violence Prevention Act of 1993 requires licensed gun dealers to perform background checks. Each

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state may have different jurisdiction, but overall, in the United States, if you do not have a criminal record and have not been adjudicated as mentally incompetent, you can buy guns.

5. 4 Economic Impacts

Over the years, the U. S. gun industry has been profiting by illegally trafficking firearms into Mexico. However, these firearms were used to arm drug cartels and thus, caused the deaths of thousands of civilians. Nearly 90 percent of weapons seized in Mexico are trafficked from the U. S. The market is extremely strong, especially because of the high demand and lack of strict control in the sale of weapons in U. S. Furthermore, in 2005, the Congress granted gun dealers blanket immunity from civil damages resulting from the misuse. Thus, the tyranny of the drug cartels and mafia reigns on (Kenny, 2013).

The gun industry has faced its own share of ups and downs throughout the history but to date, it is still going strong. In 2012, the industry is expected to earn \$11. 7 billion in sale and \$993 million in profit, according to analysts at IBIS World.(Brad, 2012)

In 2011, about half of the six million guns manufactured in the United States were pistols and revolvers. That's up from just one-third in 2001, according to a report from First Research. Rifles now account for 35 percent of the market, with shotguns and other guns making up the rest.

U. S. firearms manufacturers will export some \$4. 4 billion worth of guns and ammunition to other countries this year. The biggest customers are Canada, the United Kingdom, and Australia, who accounted for nearly 40 percent of

exports in 2012 (it's mainly law enforcement and military agencies doing the buying, as private gun ownership is heavily regulated in those nations). IBIS World expects exports to keep surging in the coming years, with ammunition and ordnance being an especially popular item overseas.

The economic impact of the firearms industry is up 66 percent since the beginning of the Great Recession, providing an unexpected shot in the arm for the economy, according to a new study. The National Shooting Sports Foundation says the economic impact of firearm sales - a figure that includes jobs, taxes and sales - hit \$31 billion in 2011, up from \$19 billion in 2008.

Jobs in the firearms business jumped 30 percent from 2008 to 2011, when the industry employed 98,750. The industry paid \$2.5 billion in federal taxes in 2011, up 66 percent in three years. "Ours is an industry with a rich history and heritage that remains vital and important to the American economy today," NSSF Senior Vice President Lawrence G. Keane said in a statement. "To millions of Americans our industry's products represent liberty, security and recreation." Some in the industry attribute the jump in sales to fears the Obama administration will tighten gun control laws in a possible second term.

"There's a concern that in the second term the Obama administration would lead an attempt to restrict gun ownership," Mr. Keane said.

That concern, known in the industry as "the Obama factor," has led many gun owners to purchase now in hopes of avoiding more restrictions and regulations later. (Devaney 2012)