TINDER LIGHTERS

By Dick Salzer

Background

Without fire and our ability to control it we might still be living as hunter/ gatherers, eating raw meat and wild berries and cowering in caves in the dark. There would have been no Bronze or Iron Ages.

No one knows how or when man first encountered fire, possibly as a result of a lightning strike or other natural phenomenon. Once man got control of fire it became the most important developmental aspect of life—so much so that early man concluded that the universe consisted of only four elements—water, air, earth and fire. Fire became a commodity, it was traded between tribes in the form of glowing embers carried by the fleetest tribal members lest they burn out during the journey.

Like so many modern day conveniences that we take for granted, the ability to instantly create fire, be it for cooking, heating, providing light or other purposes is normally taken for granted. Hardly a day passes without our creating fire in some form.

But less than 200 years ago, there were only a few methods to intentionally create fire. The friction-lit match had not made its appearance until 1826.

The history of the genesis of what developed into what we think of today as "matches" is full of false starts and dangerous devices.

In 1805, French alchemist, Jean Chancel combined potassium chloride, sulfur, sugar and rubber into a mixture he affixed to a slender wooden stick. When dunked in sulfuric acid – voila! – fire!. Another early attempt involved a small glass vial filled with acid and coated with a reactive chemical. Smashing the vial caused the chemicals to mix and burst into flame.

The first successful friction matches were invented by English chemist John Walker in 1826. Using a mixture of antimony sulfide, potassium chlorate, gum and starch he found that he could cause ignition by rubbing the mixture against a rough surface. He called his matches "Congreves" in honor of the famous developer of military rockets. The process was refined and later patented by Samuel Jones and marketed under the appellation "Lucifers", a name that persists today in Holland. From there on, practical matches evolved into a form not unlike what we use today.

Incidentally, the word "match" originated in England and applied to lengths of cord, impregnated with chemicals that would burn at a controlled rate and could be used to fire cannons and matchlock arms. The term originated in the 1400's.

Prior to the advent of matches there were only a few methods of creating fire from scratch:

Glass Lens

We are all familiar with the effect of focusing the sun's rays using a convex lens to generate the intense heat to ignite a combustible substance. Although this system was easy to utilize, it was useless at night or on overcast days.

Friction

The friction developed when two bits of wood are vigorously rubbed together creates heat and eventually a glowing ember. As every ex-Boy Scout knows, this is not an easy process and requires certain kinds of wood and a dry environment.

Fire Piston

A relatively obscure system for fire starting was the "fire pistol". It has been known for several centuries that rapidly compressing a gas and allowing escape through a small orifice would create intense heat—enough to start a fire. Pressure, volume and temperature are closely linked. Simply stated, when the volume of gas is decreased, its temperature rises.

Jean Samuel Pauly actually created a class of firearms that used this principle as an ignition system, well before the age of fulminate percussion caps. Modern day versions of the fire piston can be found on-line as novelties.

Flint and Steel

Long before the development of firearms it was well known that striking a bit of steel against a hard piece of flint, agate, chert or chalcedony would cause a spark. The process relies on a characteristic of steel called pyrophoricity. The steel must be hard but softer than the stone. A tiny flake of steel, glowing momentarily, could be captured and coaxed into flame. It took a lot of skill to do this successfully but it worked.

As this phenomenon became better understood, it led to the creation of firearms- from wheelocks to flintlocks.

Tinder Lighters – Mechanical Fire Starters

As refinements in the development of flintlocks progressed through the centuries, it must have become obvious that the principle could be applied to simple hand-held versions that would place the ability to create fire in anyone's hands. All you needed was a bit of tinder—typically finely crushed cedar bark. (a few grains of black powder wouldn't hurt)

Thus was born the Tinder Lighter. They were simple enough that any competent blacksmith could make and they provided a source of revenue to gunsmiths who could use them to hone the skills of their apprentices. As you will see, they came in a variety of sizes, shapes, configurations and qualities.

Figure 1. This form is generally called "rat tail", this one is iron but the pattern is more often found in brass.

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Figure 2. The smallest lighter in my Collection, made by Twigg.

Figure 4 – An unmarked British, brass center hammer lighter, the tinder compartment is clearly visible.

Figure 3. A nice little, well-made lighter decorated with bone inlays. Like most lighters, it contains a compartment for storage of tinder.

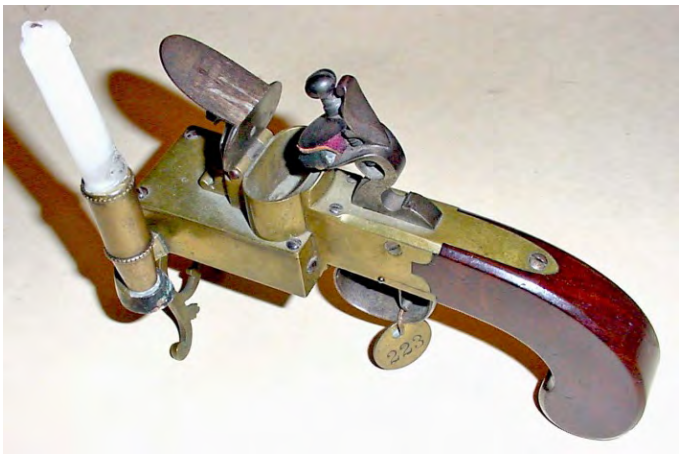

Figure 5. Another unmarked British lighter. The candle was used to transfer flame to start a cooking or heating fire.

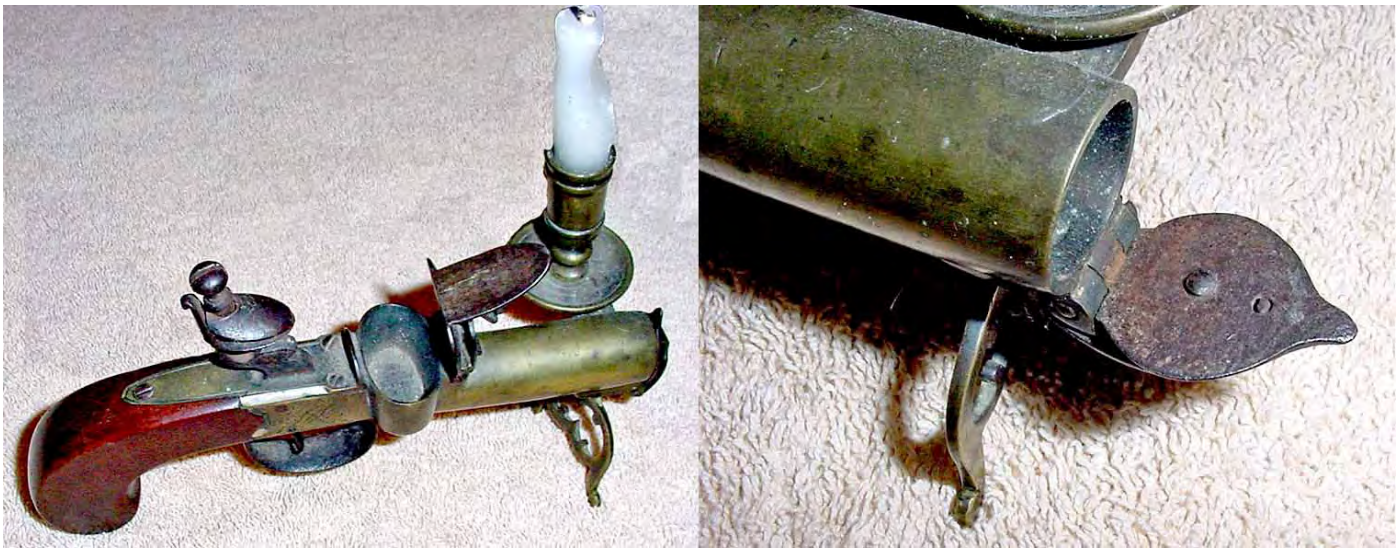

Figure 6. An unusual pattern of tinder lighter. The “barrel” is actually a tinder storage compartment and has a spring-loaded door closes of the storage chamber.

Figure 7. A rather crude American lighter, probably the product of a blacksmith.

Figure 8. Possibly the only known Wheelock lighter. Activated by a pullcord attached to the wheel.

Figure 9. Lighters come in all sizes. The larger one is Italian, the small one is British.

Figure 10. A most unusual design, incorporating a scissor to snip off a length of candle from the coil.

Figure 11. A nicely crafted, four-legged lighter, probably made by a gunsmith's apprentice.

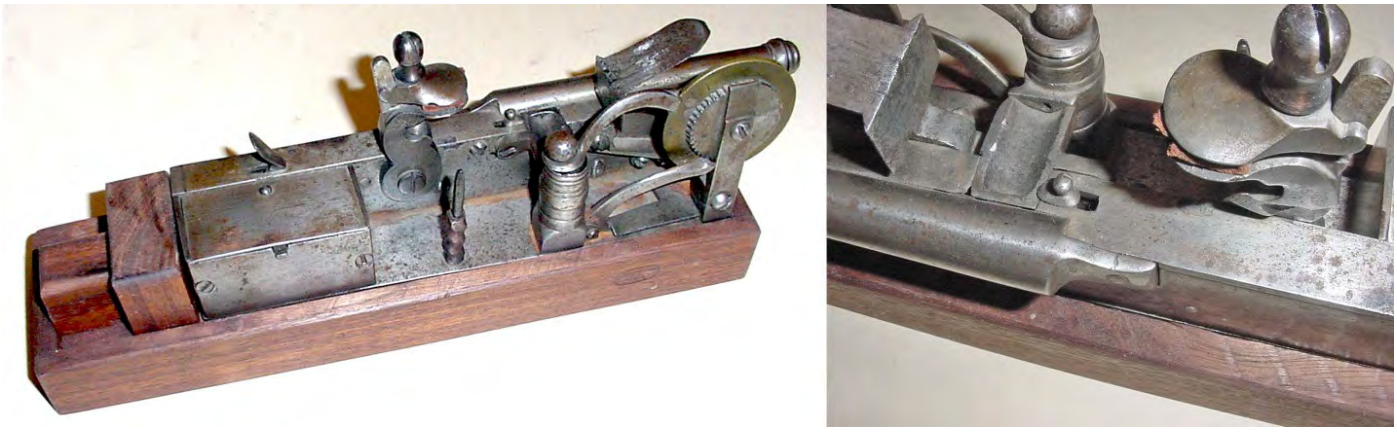

Figure 12. Combination pieces like this are rare. This one combines a lighter, powder tester and burglar pistol into one unit. Note the large tinder box and spike for a candle. The little selector switch enables the flash to be redirected, depending on the selected usage (right).

Figure 13. A few gunsmiths took delight in creating pistols that were actually tinder lighters. Like the specimens shown, they give every appearance of being a regular pistol. When the trigger is pulled, the lock fires and the lit wick pops up while the stand deploys downward (right panel). A few grains of black powder insures ignition. The buttcap is hinged, revealing storage for extra tow (inset).

Figure 14. Italian gun maker Chogi made up a few tinder lighters based on his pistol design. On the left, it would seem, at first glance, to be a normal pistol but pulling the trigger deploys a lighted wick, as shown on the right. Full page width

Figure 15. A perfectly disguised lighter by Bigoni of Italy. The lighter deployed (right).

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