

Candles

In an era without electricity, people do not have to live their life in darkness because candles existed. Despite the fact that there is ample electricity supply in the modern age, the production of candles is not affected throughout the ages or being eliminated through modernization. This is because candles are useful when a power shortage occurs. In addition, the use of candles is still considered essential in religious ceremonies.

People may not realize that candles have existed for a long time. It originated from the torch that was widely used by people of the past. Since then, people have understood the technique of applying animal fat or wax on a tree bark or wood chips and tying them together on a wood branch, which eventually turns it into a torch. In the West, there was a time when people kept bees solely to manufacture beeswax. This was primarily due to the reason that Catholics treated beeswax as a symbol of purity.

In 1829, a Frenchman discovered the method of braiding three cotton threads into a wick to solve what ancient candles lacked. Candles of ancient times were made of cotton thread; hence, users had to frequently cut off the end of the wick after lighting the candle, or else the cotton thread wick would fail to completely burn out. Even though his discovery allowed the wick to loosen while being lit up, the disadvantage of this design was that the main ingredient of the wick comprised of animal fat.



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The one person who managed to overcome this defect was a French scientist named Michel Eugene Chevreul (1786-1889). In his research of soap ingredients, he made a new discovery in the design of candles. He discovered the proper method to extract stearic acid from an animal's fatty acids. This subsequently led to the development of stearin wax which was hard, durable and most importantly, burned cleanly, thus, making it environmental friendly.

Chevreul shared his findings with his friend, Joseph Louis Gay-Lussac, a fellow scientist. Combining their research, they used lye to sop the oil, and then used hydrochloric acid to breakdown the soap in order to extract the stearin acid. They received the patent to manufacture paraffin stearin candles in 1825. Later on, other people found that they could manufacture huge amounts of paraffin through the petroleum refining process. This newly discovered method allowed candles to be mass produced easily on an international scale.



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Food for Thought:

- Although many innovations or inventions seem like an accidental discovery, innovators and inventors have been working hard behind the scenes through further research and development making it possible for such ideas to be discovered.
- There are many innovations or inventions that could become a reality if one manages to find a suitable partner with the right expertise and qualities to collaborate with.



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