CANDLES AND CANDLE MAKING

Candles have been around since the Stone Age. The Chinese and Japanese used candles in the third century BCE. In the first century CE, Native Americans living along the coasts of present-day Oregon and Washington, dried an oily fish, impaled it on a forked stick and lit it. This "candle fish" provided light during the long winter nights.

Candle making consists of covering a cloth wick with a fuel source. The fuel is usually fat or wax. Tallow, a rendered animal fat, served as the fuel for early candles. Families carefully saved the fat from butchering and cooking sheep, pigs or beef. In the Fall, women placed the fat in large pots and boiled it to remove most of the impurities. Once rendered, the tallow was poured into a vat to cool. Wicks made of flax or cotton strands braided together were placed over a long bar. The bar was dipped repeatedly into the vat of cooling tallow. Each layer was allowed to dry before the next layer was added. At the end of the process, the pairs of candles were removed from the dipping bar and stored. Because the rendering process could not remove all of the glycerin from the fat, tallow candles burned with a smoky flame and a foul smell.

Changes in candle making have dealt mainly with the fuel used to make the flame. In the Middle Ages, beeswax replaced tallow for some candles. Native Americans on the East Coast of North America showed Colonial women how to make fragrant candles from the wax of bay berries. The growth of the whaling industry in the 18th century made *spermaceti*, a wax obtained by crystallizing the oil found in the head of a sperm whale, readily available. Spermaceti candles burned brighter and did not give off a foul smell. At the beginning of the 19th century, two French chemists patented stearin, a form of stearic acid. It was like tallow, but contained no glycerin so it burned more clearly and with no odor. Around 1850, the first paraffin, a waxy substance distilled refining petroleum, was mixed with stearic acid to produce candles. This new mixture burned brightly, emitted no odor and was cheap to produce. Paraffin-stearin candles quickly became the standard.

Advances in the production of candles also occurred in the 19th century. While candle molds that made six to twelve candles at a time had been in existence since the 17th century, Joseph Morgan obtained a patent on a machine that allowed for the continuous production of 1500 candles per hour. As a result, better candles became more readily available for a growing society

The demise of the candle as the principal source of light emerged from the same industry that had finally solved the "tallow problem." In the late 19th century, the refinement of petroleum became a major industry. The main product was not gasoline, but kerosene for heating and lighting. The kerosene lamp replaced the candle in most homes. With the invention of the electric light bulb in 1879, candles, a light source for centuries, were extinguished. Candles, however, did not disappear. Candles continue to light our way in emergencies, brighten our birthday celebrations, enhance religious ceremonies and set the mood for special occasions, as they have for centuries.