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First friction matches made in area

(Westford resident George A. Parkhurst, a well-known historian and playwright who lived in Chelmsford for many years, is curator of a private museum housing numerous artifacts.)

By GEORGE A. PARKHURST

SOUTH CHELMSFORD — Today, friction matches are taken for granted and it is difficult to imagine a time when they were not common household items.

Few are aware that the first such matches to be produced in the United States, called "Lucifers," were made in 1835 by Ezekiel Byam in a small shop on the east side of Robin Hill Road.

A year later, the "Lucifer" became obsolete when Alonzo Dwight Phillips of Springfield was granted a patent for a match using phosphorus, chalk and glue on a wooden splint. His patent covered a card of a dozen matches made from pine veneer.

Byam, foreseeing the commercial value of this improvement, obtained first, the American rights for the manufacture of friction matches, and soon after, the entire patent — and introduced the friction match to the public in 1837.

At that time, 100 matches sold for 25 cents. Realizing that, at that price, only those with means would be able to afford them, Byam eventually succeeded in reducing the price to one cent for over 300 matches.

Byam's operation bounced back and forth between South Chelmsford and Boston, and in 1848 was permanently established in the Hub. Each package of Byam matches bore this verse:

*"For quickness and sureness
the public will find,*

*These matches will leave all
others behind;*

*Without further remarks we
invite you to try 'em;*

*Remember all good that are
signed by E. BYAM."*

Origin of the match

The production of fire by spontaneous chemical reaction was unknown until the 17th



Label from Byam, Carlton & Co. matchbox

century. For instance, the town of Chelmsford was 25 years old when the English chemist and physicist Robert Boyle discovered that fire could be produced by drawing a sulfur-tipped splint through a fold of course paper that had been coated with phosphorus.

However, that was more of a scientific curiosity than a practical artifact. Another century would pass before any further developments took place in this field, probably because of the difficulty of preparing phosphorous.

The common, and most practical, technique for starting a fire was to transfer glowing coals or a flaming splint.

In 1781, a French inventor produced the "phosphorus candle" or "ethereal match." It consisted of a twist of paper tipped with phosphorus and sealed in a glass tube. When the tube was broken, the paper burst into flame.

Five years later saw the development of the "pocket luminary," a bottle lined with oxide of phosphorus. Chemically-treated splints were rubbed on the oxide and, when removed from the bottle, they ignited spontaneously.

Jean Chancel discovered in 1805 that splints tipped with potassium chlorate, sugar and gum could be ignited by dipping them into sulfuric acid.

The so-called "instantaneous light box," a bottle containing fabric soaked in sulfuric acid, sold in the U.S., with 50 chemically treated splints, for \$2.

In spite of the price, it was popular for about 40 years. The "promethean match,"

patented in London in 1828 by Samuel Jones, employed a somewhat similar process.

Glass beads containing acid were coated on the outside with an igniting composition. When the glass was broken by small pliers, or the user's teeth, the paper in which it was wrapped became ignited.

Probably the first matches that were anything like what we have today appeared about 1827 when English pharmacist James Walker produced 3-inch splinters tipped with antimony sulfide, potassium chlorate and gum arabic. These were known as "congreves" and were sold with a sheet of sandpaper.

In 1829, Samuel Jones improved on his earlier patent by producing the friction matches which he called "plumbers."

However, they had two disadvantages: they were difficult to ignite and they gave off a very offensive odor which prompted Jones to print a warning on his matchboxes regarding inhaling the fumes.

The Byam legacy

The early Chelmsford industrialist was born in South Chelmsford in 1796, the son of William and Rebecca Byam. In 1818, he married Charlotte, the daughter of John Bateman, who lived in the brickend house which still stands at 4 Proctor Road. Shortly after the marriage, the Batemans moved to Concord, with Ezekiel and his bride taking over the brickend house.

In addition to operating the Byam Match Company, he was founder and senior partner of

Byam, Carlton & Co. of Boston, which continued to manufacture matches until 1880, when it was sold to the Diamond Match Company.

Ezekiel died in 1863 at the age of 66, leaving four sons to carry on his business interests.

The name Byam has been associated with South Chelmsford continually since the 1650's. Even the South Chelmsford Railroad Station, which closed in 1921, was called "Byams."

In September, 1975, the Chelmsford Historical Commission, as part of the town's Bicentennial celebration, erected a granite monument on the site of the Byam match factory — on the 140th anniversary of the inception of the business.