

## *The Secret Formula!*

The concept of 'industrial secrets' probably goes all the way back to the time when the first man [*or woman!*] learned to use tools. Since then, the person or business that managed to stay on the 'cutting edge' of his or its field was usually the most successful. The path to such success was research and secrecy, and the match industry certainly had its share of such endeavors. This is the story of one...

Prior to the day of the parlor match, the only friction match was the old sulphur Lucifer match that, once lighted, gave off a nauseating cloud of sulphurous smoke which almost suffocated anyone in its immediate vicinity. But even that was a big advance over any fire-making agent in use before it, so in 1853 Edward Tatnall began the manufacture in Wilmington, DE, of the blue, sulphur-headed friction match and was quite successful. But it was one of his employees, originally known as Harry Bell but later by his full name, Harry Bell Courtney, who was to work a revolution in match making.

Courtney set himself to produce a friction match which would not emit the choking smog of the blue-flamers. He had set aside a piece of dry, soft pine, which had once been the mast of a small sloop, to supply his experimental match sticks. Using his wife's cooking utensils and stove, he spent all the time he could experimenting in an effort to make a composition head match that would produce an instant flame, be easily extinguished, and be produced cheaply.

He finally achieved his goal and found his formula...his *secret formula*...for he would divulge it to no one for the next 30 years. During those 30 years, only he mixed the firing composition for the billions of matches which were made by Tatnall's company...a company which reaped millions in profits.

Now, Tatnall had a partner in the business...one William H. Swift...who supplied both the capital and business management. Eventually, 'friction' developed between the two partners, and Tatnall was bought out. The company then became known as Swift & Courtney, and soon the secret Courtney match outstripped all competition. The company employed 300 workers at what was then very high wages, \$18-\$25 a week.

In Swift & Courtney's early years, bundles of sticks, 12 or 14 inches in diameter and twice the final length, were dipped in paraffin on each end to make the wood burn more easily. The ends were then immersed in Courtney's secret composition and cut in half with a sharp knife. When dried, they were packed in boxes by young women who became unbelievably proficient at the work.

At the factory, Courtney used a small room occupied by himself alone. All the chemicals and equipment he needed were here, but no one else knew the formula in all those years. Late in life, Courtney finally whispered the secret to two men, his son, Charles, and Ike Buzzard.

The company became Swift, Courtney & Beecher when Beecher, who had invented an automatic machine for making the match sticks and applying the composition, became president, and Swift became secretary and treasurer. The company—and Courtney's secret—were sold to Diamond in 1882, supposedly for \$2 million, but the plant remained in Wilmington for eight years before being moved to Oswego, NY.

As a side note...while Swift & Courtney was operating in Wilmington, many employees were affected with a disease called necrosis of the bone, caused by the handling of phosphorus or by inhaling its fumes.

<p>handling of phosphorus or by inhaling its fumes. One of these was Courtney's own son-in-law. It was also said that some of the lumps of the secret composition which were not quite right were occasionally discarded on nearby vacant lots where local mischievous boys delighted in setting them afire!</p>		