

OPTICAL ENGINEERING NOTE #87 THE LAVA LITE

Leave it to *veteran newsman* **Dave McBride*** to give us the true facts of the origins of everyone's favorite kinetic sculpture.

Dave's Rave 8/21/00

¹ Sunday the general staff of Haggerty Enterprises of Chicago were in New York City at a major gift trade show, celebrating the 35th anniversary of their principal product, the Lava Lamp. Unknown to those gathered in celebration, the creator of the Lava Lamp lay dead in his coffin, having expired some days earlier, which is how I came to be speaking today by phone with a large nudist club in the south of England. The inventor of the Lava Lamp; a universally recognized artifact of Psychedelia memorabilia, was Edward Craven Walker, who was an RAF flyboy who, following the war, was so taken with the nude beaches of France he returned to champion British nakedness; principally attractive nakedness, not being overly eager to embrace fat nakedness. It was in the late '50s that he produced his first feature film promoting nudism, entitled, "Eves on skis," a 1958 release, featuring naked women skiing. That was followed by his most successful film featuring attractive naked people in pre-video years, entitled, "Traveling Light," sales of which permitted him to buy a summer holiday club on the south coast of England which he turned into England's premier nudist resort, and he caused something of a controversy by attempting to ban overweight nudists from his naturist paradise. At the same time, during the 1950s, he was perfecting his design for a lamp which would form ever-changing sculptures, an idea he borrowed from a wartime design for an egg-timer, but which evolved into what he called the "Astro Lamp," which premiered in 1963, the year after the premier of the Jetsons and their speech-impaired dog Astro. He ran the company for three decades and acquired the wealth to fly his own helicopters and drive his fast cars, while basking naked at his nudist resort near the factory. In 1965, Chicago partners Adolph Wertheimer and Hy Spector discovered the Astro Lamp, and destiny, at a trade show in Hamburg, Germany, and paid Craven Walker for the American rights and started manufacturing them in Chicago just in the nick of time to greet the dawning of what would one day be known as classic rock, combined with the golden age of recreational controlled substances. In 1976,

*formerly of the Steve Dahl Show, on **WCKG, 105.9 FM**, but now on a station in Florida. Everyday Dave goes into a Rave on some sort of stream of consciousness mad rap on an interesting topic. The Raves are archived at www.DaveMcbride.com. Check out the Rave for 5/1/2000, and the following one for 5/2/2000 which mentions my correction of Dave's use of the word "frail".

Lawrence Haggerty (known thereafter as Lava Larry), acquired the Chicago operation and the Haggerties continue to turn out Lava Lamps to the tune of two million a year. Meanwhile, Edward Craven Walker withdrew from paraffin lamp-making in the 1990s, selling out to Mathmos, LTD, one of the fastest growing firms in Britain with the lava lamp as its fiscal foundation. Mr. Craven-Walker retired to his nudist club in Dorset, and lived comfortably in a bungalow just outside the property, corresponding with his fans, including Linda McCartney. And I phoned up the Bournemouth and District Outdoor Naturist Club this morning, to be told that Mr. Craven-Walker was a beloved figure in the nudist community there, albeit a very old nude figure. Services will be private. It can be presumed mourners at the wake will nod in agreement the deceased looks very "au natural." According to the official announcement of Mr. Craven-Walker's death by the Mathmos company; in order to make a Lava Lamp, wax and water are combined with a secret formula, but according to a Lava Lamp enthusiast web site, the secret formula is out of the bean bag chair. It reveals that U.S. Patent #3,570,156, for the Lava Lite, was not issued until the year 1971, and the document describes the moving component as a "solidified gobule of mineral oil, such as Ondina 17 (R.T.M.) combined with a light paraffin, carbon tetrachloride, a dye, and paraffin wax," whereas the liquid in which it undulates is a 70 to 30 mixture of water and a liquid such as propylene glycol which will raise the coefficient of cubic thermal expansion and encourage movement." I phoned up the managing director of London's Mathmos Company, 37 year old multi-millionaire Cressida Granger (whose assistant asked me not to refer, in Ms. Granger's presence, to the lamp as a Lava Lamp, in that the Lava is American and the original is still called the Astro), who told me that the key to the lamp's appeal is chaos, in that it never repeats a shape, and described Mr. Craven-Walker as an eccentric, in the best British tradition, a description I repeated to Lava Lite Chicago CEO Tim Haggerty, to which Haggerty replied. "I guess that's what you call it if you make a lot of money and you're nuts.

ELUCIDATION OF THE BASIC PRINCIPLE:

Mark the level of the lava liquid on the glass container while it is cool. Then as it gets heated by the 15 Watt bulb in its base, the lava and liquid both expand, as you can see by the level rising.

The lava expands more than the liquid, and when it has reached a critical volume its specific gravity < that of the surrounding liquid, so it floats. When it shrinks the specific gravity increases, and it is no longer buoyant, so it plops back to the bottom.