

LidsOff Adds to Ergo Approach

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“A New Consumer Small Appliance Category”

On May 14, 2003, Applica announced it was “...creating a new consumer small appliance category with the launch of its new Black & Decker®* LidsOff™! Automatic Jar Opener”. In fact, its interest in customers of all ages and abilities had begun years earlier.



Black & Decker Ergo Chopper

At the January, 2000 Housewares Show in Chicago, Applica introduced its Ergo line of small kitchen appliances—a handmixer, cordless can opener, electric knife, and food chopper. The products were designed to optimize handle configurations, handle angles, balance,

weight, and functions and had been tested with consumers of all ages.



Black & Decker Gizmo Can Opener

In June, 2001, Applica introduced its Gizmo™ Can Opener. Cordless and designed to fit in the palm of the hand, the Gizmo was designed to operate over the sink, near the stove or on picnics and camping trips. It was also designed for hands-free operation - to automatically walk around the can and then automatically shut off.

In its press release for the Gizmo, Applica noted, “...those who suffer from arthritic or manual dexterity problems will appreciate the hands-free operation that relieves stress placed on the hand that is typically associated with more traditional can opening methods.” (Applica, 6/05/01)

CASE STUDIES ON THE PRINCIPLES OF UNIVERSAL DESIGN

Stuart Naft, industrial design manager at Applica Consumer Products Inc., noted that “appliances should be designed to accommodate a range of limitations, including lack of mobility or reduced vision. As a result, manufacturers can appeal to a broad market...” “Controls should be easily read and understood, easy to turn, with larger knobs, and designs should communicate major functions, rather than secondary functions” (Jones, 2001).

Company History

In June, 1998, Windmere-Durable Holdings, Inc. acquired Black & Decker's Household Products division, tripling its size and making it the #1 US maker of toaster ovens, can openers, and steamers. The company changed its name to Applica, Inc. in May, 2000.

Applica Consumer Products operated the U.S. distribution, marketing, and sales for Applica Inc. A large part of Applica's business comes from small household appliances sold under the brand names of Black and Decker, Windemere, and Littermaid. Applica also markets small appliances and tools to the salon industry.

From Twistmaster to LidsOff

In 1998, Black & Decker approached Yale University with an offer to fund student design projects, based on B&D's internally generated ideas for new household products. In return, Yale would assign intellectual property rights for promising inventions to B&D. Yale University accepted the offer and encouraged student design teams to participate.

In 1999, a Yale student named Jen Davis chose the B&D design topic of an automatic jar opener. The completed “Twistmaster” worked well enough for her to submit the prototype device to the BF Goodrich Collegiate Inventors Competition and win.



LidsOff makes jar opening a one-hand operation

The prototype was designed to be accessible to people of all dexterity and strength levels, and to work with a wide range of jar and lid sizes. The general population – especially women — constituted the primary market because of difficulty in opening jars, particularly lids on vacuumed sealed jars. Secondary markets included the elderly, people with physical disabilities and children. Black & Decker acquired ownership of the Twistmaster in late 1999.

Rehabilitation Engineering Center Provides a Market Research Boost

By the time LidsOff was released in 2003, Applica had already demonstrated its interest in customers of all ages and

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abilities with the release of its Ergo and Gizmo small kitchen appliances. During the same period, The Rehabilitation Engineering Research Center on Technology Transfer (T2RERC) at the University of Buffalo had followed Jen Davis's development of the Twistmaster.

Through the sponsorship of the National Institute on Disability and Rehabilitation Research, T2RERC's mission is to facilitate the introduction of new products and technologies into the marketplace benefiting persons with disabilities.

The T2RERC staff saw Davis's Twistmaster described in an announcement of the BF Goodrich Collegiate Inventors Competition Award winners in early 2000 and offered help to B&D in bringing the idea to market, or reach out to other manufacturers if B&D did not wish to pursue it internally. Black & Decker confirmed their interest in the prototype but had several reservations about its functionality and marketability.

Through market research that included analysis of potential competitive products and a panel of consumers with a variety of functional abilities, the T2RERC concluded that the device had substantial commercial potential, given its ability to open a variety of jars with little effort from users. There were no existing products that both gripped the jar and twisted the lid, and those features received an overwhelmingly positive response from consumer panels.

Jim Leahy, Project Manager of the T2RERC stated, "Applica Consumer Products, Inc. encouraged consumers to evaluate initial concept models and to

identify both the functional and design features that the ideal automated jar opener should have from the consumer point of view. In effect, these consumers were performing a type of 'consumer engineering' that would ultimately lead to the finished product."

Continued Development by B&D

Black and Decker felt that the T2RERC's approach offered a new perspective to their own internal primary market research on need, identified price points and estimated purchase intent.

In October 2000, Black & Decker announced their decision to establish an internal design and development team for the product. They started the design process from scratch rather than building off of existing prototypes, to avoid constraining the design team. Over the next several months, they mocked-up several different models, each representing a different approach to opening jars.

In October 2001, B&D sent their revised model back to the T2RERC for Beta focus group evaluation. The Beta groups each involved seventeen potential consumers, consisting of a mix of the general population, elders, and people with disabilities. This group evaluated three product models, each representing a different approach to incorporating the features and functions.

Black and Decker selected their final product version based on consumer feedback from the Beta focus groups. The production version received approval in the Spring 2002, and LidsOff was introduced the following year.



The Finished Product

Packaging foods in jars offers advantages of assured freshness and resealability. But the difficulties of opening them have forced consumers to resort to rubber grips, dish towels, running under hot water, using scissors or knives, and banging on the counter.

Black & Decker's LidsOff was designed to open a wide multitude of jar lids - from larger lids found on pickle jars to small baby food jar lids. LidsOff is about the size of a standard countertop coffee maker. It utilizes a motor driven gear system and a lid-engaging unit that adjusts to the height and diameter of the jar lid to break the vacuum seal on a jar and unscrew the jar lid. It accommodates most standard sized jars measuring from four-and-a-half inches in diameter to eight inches in height.

As David Arnott, Marketing Director for Black & Decker®'s Kitchen Brand noted, the design requires minimal effort to open jars for all consumers "...whether you're young or a bit older, struggling from hand ailments or just struggling to escape the otherwise monotonous task of opening jars..."

Strong Promotion and Customer Response

An integrated marketing communications program was established beginning the second quarter of 2003. This program included direct response print and television advertising, public relations and web site support. Shelf displays were created for retail support. The projected advertising cost was estimated at \$1.5 million.

LidsOff was officially launched at the product show "Christmas in June" in New York City and went on sale through major retailers including Wal Mart and Target. The marketing program was successful enough that LidsOff was sold out well before Christmas, 2003. By January, 2004, the product was backordered by 50,000 units.

A Unique Application of Consumer Research, Design, and Education

Originally conceived as an aid to people with disabilities, LidsOff became a commercial product through determination that it would not only fulfill this role but also be useful and appealing to customers of all ages and abilities. Throughout the process, the B&D internal design team used the T2RERC as a complimentary resource rather than as a competing source of expertise and recognized the value of the RERC's consumer groups' input. Building on the success of the LidsOff collaboration, Applica and the T2RERC have begun working together on development of a digital toaster oven.

CASE STUDIES ON THE PRINCIPLES OF UNIVERSAL DESIGN

The development of LidsOff, from Jen Davis's student project in 1998 to its commercial debut in 2003 illustrates a unique cooperation between design education, rehabilitation research, and commercial product design and manufacture.

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January, 2004