The Band-Aid and its progeny come in ever more shapes, sizes, and textures.

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THE BAND-AID

It's not just a quick cosmetic fix

BY CURT WOHLEBER

POLITICIANS LIKE TO call a feeble, short-term patch-up of a major, long-term problem a "Band-Aid solution." Some delegates at the 2004 Republican National Convention wore adhesive bandages with purple hearts to belittle an injury for which John Kerry had received a Purple Heart. But when Earle Dickson invented the adhesive bandage in 1920, he saw it as an ingenious and effective solution to a serious problem. In doing so, he created an immensely useful product as well as a universally recognized brand.

Dickson was a cotton buyer for Johnson & Johnson. According to Lawrence G. Foster, who helped launch the company's public relations department in the 1950s and later served as its unofficial historian, Dickson's wife, Josephine, was "not very adept in the kitchen." Company lore has it that she was forever suffering minor cuts and burns while cooking. Applying cotton gauze and surgical tape proved difficult to do one-handed, so she often summoned her husband home to help.

Johnson & Johnson had been making sterile dressings and adhesive surgical tapes for decades. Dickson simply put the two together in a single convenient package. He affixed squares of cotton gauze to a long strip of tape and covered the whole thing with crinoline, which would prevent the tape from sticking to itself when rolled up and keep the gauze reasonably aseptic. Mrs. Dickson could cut off a piece from the strip, peel off the crinoline, and bandage her wound.

Dickson described his invention to a coworker, who encouraged him to tell his boss about it. "The boys in the front office loved the concept," Dickson said years later. The general public was not as enthusiastic. In the first year sales were a disappointing $3,000. But the first Band-Aids, which were handmade, measured 2½ inches wide and 18 inches long, so they couldn't have been an enormous breakthrough in convenience. The advertising firm of Young & Rubicam told the company that they were a lost cause, but Johnson & Johnson kept faith in the product. Automated manufacturing, more convenient packaging, and aggressive marketing eventually helped turn Band-

Aids into one of the most successful consumer products in history, with more than 100 billion sold over the last 80 years.

Acceptance of Band-Aids was probably bolstered by their inclusion in Johnson & Johnson's extensive line of first-aid kits. Johnson & Johnson more or less invented first aid, concisely described by the firm's longtime scientific director, Fred Kilmer (the father of the soldier-poet Joyce Kilmer), as a set of practices "meant to prevent an extension of an injury rather than its treatment." Johnson & Johnson developed its initial first-aid kits in the 1890s for railroad companies whose track workers could be injured many miles from any doctor.

One of the company's founders, Robert Wood Johnson, was an early convert to the teachings of the British surgeon Joseph Lister, who annoyed many of his colleagues by suggesting that their labors often did far more harm than good by spreading infections from patient to patient. Lister's concept of asepsis was still struggling to gain acceptance in 1886 when Johnson joined the new medical-supply company formed by his brothers, James and E. Mead Johnson. (As late as the 1890s a pharmaceutical journal called asepsis a "fad practiced by cranks.") Introducing an extensive line of antiseptic dressings, Johnson aspired to build the firm by promoting better hygiene in medicine, which would both alleviate the suffering of the sick and injured and, as he wrote to a company sales rep, "stick the knife right into the bowels" of the competition.

Unlike such a stab, most injuries for which adhesive bandages are appropriate will, in fact, heal by themselves if left alone. Blood is nature's own bandage, filling an open wound and then hardening to form a protective scab that shrinks as it dries, pulling the edges of the wound together to facilitate healing. But things can go wrong. Wounds are vulnerable to reopening even after the scab has formed, reintroducing the risk of infection or contamination. True to the words of Fred Kilmer, Band-Aids primarily keep an injury from getting worse. In addition to offering protection, they draw blood away, preventing scabs from forming. This might sound like a bad thing, but a bandage generally provides better protection than a scab, and scabless wounds are less likely to develop scars.

The Band-Aid brand dominates the adhesive bandage marketplace so completely in the United States that despite Johnson & Johnson's best efforts, the name is almost universally used to refer to adhesive bandages in general (in Britain they're known as *sticking plasters*). In 1922, just a year after the first Band-Aid, the German company Beiersdorf began marketing a "first-aid gauze bandage" under the name Hansaplast. Today Beiersdorf owns the popular British brand Elastoplast and Curad in America.

"The boys in the front office loved the concept," Dickson said, but at first the general public was less enthusiastic.

The original version (top) came in one long strip that had to be cut to the proper length.

The advances in adhesive-bandage technology since the 1920s have been largely incremental. The red thread for opening the wrapper appeared in 1940. Plastic, and later vinyl, bandages in a steadily increasing array of shapes and sizes were introduced in the 1950s. New adhesives made them more resistant to water and less likely to irritate the skin. Today the accident-prone man or woman faces a bewildering variety of products. There are dots, strips, oddly shaped bandages for fingertips and knuckles, clear ones, waterproof ones. For kids they come emblazoned with licensed movie and TV characters (Johnson & Johnson appears to have the most comprehensive and up-to-date selection, with, among others, Harry Potter and SpongeBob SquarePants [both available in glow-in-the-dark versions]; Disney fans can rely on 3M's Nexcare line).

The latest generation includes liquid and spray-on bandages and strips coated with antibiotics or containing ionic silver, a venerable antimicrobial agent that has enjoyed renewed popularity because bacteria appear unable to develop resistance to silver. Hydrocolloid bandages, once available only in hospitals and doctors' offices, absorb fluids from wounds and use them to form a moist, protective gel.

History hasn't recorded the fate of Josephine Dickson, but her husband was well rewarded for his innovation, becoming a vice president at Johnson & Johnson and later a member of the company's board of directors, so perhaps if those stories were actually true, he was able to hire his wife a cook. ★

COURTESY OF JOHNSON & JOHNSON