Build a Better Mousetrap

Make Classic Inventions, Discover Your Problem-Solving Genius, and Take the Inventor's Challenge

RUTH KASSINGER

John Wiley & Sons, Inc.

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For my sister, Joan Good,
who is so generous in her enthusiasm

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Introduction

Build a better mousetrap," the American philosopher Ralph Waldo Emerson said in 1855, "and the world will beat a path to your door." When Emerson spoke of mousetraps, he didn't mean just mousetraps. He meant any kind of invention that solves a problem. Emerson could have said, "Build a stronger bridge," "Build a more accurate clock," or "Build a better device for listening to the heart."

When Emerson said, "and the world will beat a path to your door," he meant that when people see a better design, they will hustle over to the inventor to buy it (trampling a path in the grass on the way). As you'll see in this book, when an Italian invented spectacles in the thirteenth century, people no longer used the chunky "reading stones" to help them see. After French doctor René Laënnec invented the stethoscope in 1816, every doctor had to have one. And when Simon Lake invented the periscope in 1902, his submarine was suddenly in demand by the U.S. Navy. We are always on the lookout for devices that make our lives better, easier, or more fun, and we're usually quick to drop the old for the new.

Many Americans have taken Emerson literally in the last 150 years: The U.S. Patent Office has issued over 4,400 patents for original mousetraps. (Thousands more applications have been rejected as unoriginal.) Mousetraps have been the most frequently invented device in U.S. history, although the old, familiar spring trap is still the most popular.

So, how do you go about making an invention that will bring the world to your door? The first step is to identify a problem. Sometimes the problem is obvious. When the young French balloonist Andre-Jacques Garnerin was imprisoned in a Hungarian castle in 1793, he quickly identified his problem: he needed a way to escape. He dreamed up the parachute as a result.

The next step in inventing is observing the world around you. In ancient Egypt, someone invented the water clock after noticing that water dripped at a steady rate from containers with a hole in the bottom. In 1891, American Clarence Kemp observed that metal painted black retains heat well, and he used his observation to invent the solar water heater.

After identifying a problem and making observations, it's time to experiment . . . and experiment . . . and experiment. None of the inventions in this book worked out perfectly the first time. Christopher Cockerell,