

'The Art of Invention' brings new ideas to life

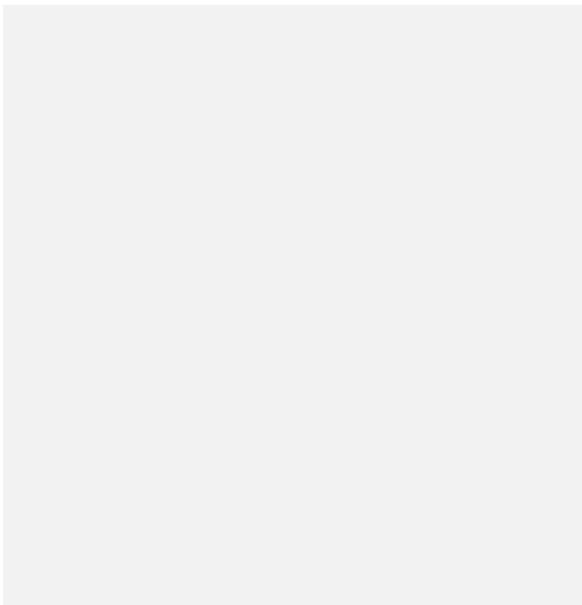
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In our world full of gadgets, sometimes the most elegantly designed invention is simplest. Take, for example, the paperclip. To veteran inventor and design engineer Steven J. Paley, it is a prime example of the three fundamental qualities that often characterize a great invention—simplicity, elegance, and robustness—and it provides a lasting solution to a common problem.

In *THE ART OF INVENTION: THE CREATIVE PROCESS OF DISCOVERY AND DESIGN* (Prometheus Books, \$20), Paley—a lifelong inventor who holds nine US patents—illustrates how great inventions embody these crucial characteristics, and shows why these qualities are essential not only to the success of simple devices, but to complex inventions from computer chips to nuclear power plants. Paley delves into the process of invention, exploring the principles of creative problem solving, needfinding, design, and entrepreneurship. His expertise, personal examples, and case studies offer detailed guidance for aspiring inventors and experienced designers alike on conceptualizing ideas and turning them into reality. Thus, "the idea of the 'mad inventor' is elegantly replaced with invention as a skill within the grasp of us all," says David Thornburg, PhD, director, Thornburg Center for Space Exploration and former adjunct professor in the Stanford University Design Division.

In *THE ART OF INVENTION*, Paley explores the essential aspects of creative thinking, from identifying a problem or need—often hidden in plain sight—to finding an inspired solution. He shows how ideas can come from a variety of sources such as the natural world, basic physical principles, life experience, or even chance observations. He examines how intuition and the harnessing of subconscious information are key ingredients for the inventive process.



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"Steven Paley gets it exactly right," says Bill Burnett, executive director of the Product Design Program and consulting assistant professor of mechanical engineering at Stanford University. "Invention is both an art and a science and it starts with an appreciation for technology, a keen sense for business opportunities, and above all a deep understanding of human need. It also requires a childlike curiosity, a sense of wonder, and the optimism to believe that you can make a difference."

THE ART OF INVENTION teaches creative thinking in a way that inspires us to invent," says Ronald D. Fellman, Ph.D., a lifelong inventor and former professor of electrical and computer engineering at the University of California at San Diego. "Paley guides us on a journey through the world of creativity in engineering [and] shows both the aspiring and experienced inventor a clear path to successfully fulfill their goals."

He also takes an in-depth look at the business of invention and the typical inventor's toolkit, addressing the real-world challenges of turning a good idea into a practical, marketable application, including patents, marketing, and entrepreneurship.

Full of insights and practical guidance from a successful inventor and entrepreneur, THE ART OF INVENTION will open new avenues of creativity for budding and accomplished inventors alike.

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