

Interesting Inventions

A Better Umbrella—Karen Schlangen

Have you ever looked critically at your umbrella? You probably take its design for granted, but Karen Schlangen didn't. She noticed many flaws in the current design of the umbrella. For example, you always get wet even with the biggest umbrella, and in gusty winds an umbrella tends to flip inside out. Karen realized that the maximum protection against wind and rain is naturally in the center of the umbrella, but because a central pole is in this space, the user gets wet. Karen redesigned the umbrella—she put the handle off to one side so that the user can be under the center of the dome. She also made the linkages stronger to prevent the umbrella from turning inside out.



A Self-Cleaning House—Frances Gabe

Do you think housecleaning is a big waste of time? We already have many gadgets to make cleaning faster and easier—but Frances Gabe has taken housecleaning one step farther. Instead of inventing another cleaning device, she redesigned her entire house to create a self-cleaning house! Frances modified her own home by attaching a 10-inch square “Cleaning/Drying/Heating/Cooling” unit to the ceiling of each room. With one press of a button, water sprays the room, rinses the entire area, and then blow-dries it. The floors are slanted to allow water to run off into drains, and she keeps valuable or vulnerable items under glass. The furniture is specially coated to be water-resistant. Frances’s house also includes more than 68 devices she has patented. For example, there is a kitchen cabinet where the dishes are washed, dried, and stored; a closet in which the clothes are washed and dried where they hang; and bookshelves that dust themselves.

The First Windshield Wiper—Mary Anderson



In 1903, Mary Anderson took a trip to New York City. While touring the city by streetcar, she was captivated by the shivering motormen who continually had to get out to wipe off the snow and ice that collected on the windshields. The motormen had tried a variety of solutions to this problem, but none seemed to help. Mary had an idea, and she made a quick drawing in her sketchbook. Her device would allow the motormen to manipulate a lever from the inside that “activated a swinging arm that mechanically swept off the ice and snow” (National Academy of Engineering, 2001). Her windshield

wipers had rubber blades attached to a spring-loaded arm. When the lever was pulled, the blades swung neatly across the windshield and returned to their original position.

People laughed at Mary's invention. They thought the swooshing back and forth would distract drivers and cause accidents. But Mary Anderson showed them. She received a patent for her windshield wiper a year later. While Mary never sold her invention, it did catch on. By 1913, windshield wipers were standard equipment on American cars, saving lives and making it easier to drive in bad weather.