

The Pogo Stick

“**pogo stick** (pō'gō): a stilt with pedals and a spring at one end, used as a toy to move along in a series of bounds.” (*Neufeldt, Victoria, ed., 1988, Webster's new world dictionary of American usage, 3rd college edition, Cleveland, Ohio, Simon & Schuster, Inc.*)

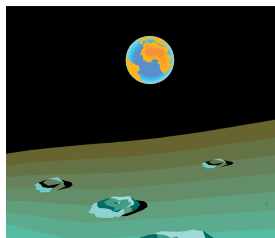
Your great-grandmother may have used a pogo stick as a young girl, because these toys have been around for a long time. They were invented by George B. Hansburg in Germany in 1919, and originally were made of wood. When an American company ordered the first large shipment of the new toy in 1919, however, the wooden pogo sticks warped during the long, humid trip across the ocean, which made them unsellable. The inventor, Mr. Hansburg, then developed a steel version with an enclosed spring, which he began producing himself at a factory in Elmhurst, New York. That factory (now under a different name and since relocated to Ellenville, New York) is still the leading producer of steel pogo sticks in the world. Steel, which is one of the most inexpensive metals, is a combination of iron (extracted from iron ore) and a small amount of carbon. Together, iron and steel comprise about 95 percent of all the metal produced annually in the United States and the world.

The pogo stick quickly became wildly popular in the United States. While sales for children soared, adults held marathon jumping contests, and Broadway shows featured dance numbers on pogo sticks. Eventually, chorus girls in New York performed whole shows on pogo sticks!



Although it has never regained the popularity it held in the 1920s, the pogo stick has never stopped being made and sales have remained relatively steady. There have, however, been a few changes. In 1947, Mr. Hansburg designed a new type of steel pogo stick with a longer-lasting spring, and, as recently as 2001, an American company came out with an air-powered pogo stick made from aircraft-grade aluminum. Aluminum, which is the second most abundant metallic element in the Earth's crust after silicon, weighs about one-third as much as steel. It is durable, resists corrosion, and is easily machined and cast. Time Magazine voted this version of the pogo stick to be a “retro favorite” and one of the best inventions of 2001.

The pogo stick has had interesting spin-off applications as well. Student researchers at Carnegie Mellon University and the University of California, Berkeley, for example, have looked into using pogo sticks as shock-absorbing “legs” for robots. The Carnegie Mellon



students used a bow made of fiber-reinforced composite material in place of the pogo stick's spring, which increased the energy of the bounce by 2 to 5 times. In the early years of space exploration, Soviet and American researchers studied the possibility of using modified pogo sticks as hopping machines to explore the moon. Another version of the steel pogo stick is used by building contractors to support brick and stone arches that are under construction.

For more information on the minerals used in making pogo sticks, see the USGS minerals information Web site at <http://minerals.usgs.gov/minerals>.

Sources

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