

Inventions That Happened By Accident

Most major medical and technological achievements that we come across in our daily lives are the result of years of hard work and research. Thomas Edison experimented with over a thousand bulbs until he hit on the tungsten filament that made his invention practical.

There are some exceptions to the rule, however. Some of the most brilliant discoveries came about entirely by accident. Join us for a glimpse at some popular discoveries that enrich our lives today, yet were originally developed by accident.

• **Shimon Rosenberg**

Potato Chips

We meet them all the time—and miss them when we don't. Potato chips are one of the most popular forms of *nosh* today, served at parties and sent with children to school to enjoy during recess. Dozens of companies produce the snack, and potato chips are even available with the highest standard of *kashrus* you could ask for. It may come as a surprise to our readers, but the first potato chips were created by an angry Native American cook who wanted to teach a particular customer a lesson. This customer was a real ingrate, never satisfied with whatever the cook produced.

In his time, George Crum was famous as one of the top chefs in the world. The cuisine he served up at Cary Moon's Lake House restaurant near Saratoga Springs, New York, was widely praised. Everyone knew that Mr. Crum could take any ingredients and transform them into a dish fit for a king. His talents were put to good use by the restaurant, which drew a discerning clientele that expected to be treated like royalty.

In 1853, however, one of the restaurant's patrons complained loudly that his fried potatoes were not right. The slices were too thick, too soggy and tasteless. The incensed customer demanded that Crum go back and prepare another plate of sliced potatoes, this time fried crispy and tasty.

Poor Crum was not used to abuse and he took the client's outburst to heart. So much so that he decided to teach the patron a lesson in correct behavior. He sliced the potatoes thin as paper and fried them until they would crumble when stabbed by a fork. He also poured on plenty of salt. Now Crum was sure that he would never again hear about the slices being too thick, too soggy or tasteless....

Unfortunately—or perhaps fortunately—Crum's plan backfired completely. The customer was delighted with the results and ordered another serving exactly like



George Crum, the chef who avenged himself and accidentally began a craze.



Expert potato chip makers still use Crum's technique.

the first. To add salt to Crum's wounds, the formerly irate patron let everyone he met know about the fantastic dish available at the Moon's Lake Lodge restaurant. In a short time the "Saratoga Chips" became popular across the American Northeast. Crum became so well known that he was able to open his own restaurant.

The consequences of Crum's act are still widely felt today. His unwitting invention

created the foundation of an entire snack industry—which is good if you are a potato chip manufacturer or *nosh* fiend, but not good if you are in any way health conscious. For all their fame and taste, potato chips are typically high in fat and calories, increasing the risk of weight gain and obesity; typically low in vitamins and minerals, yet filling enough to displace foods that are higher in nutrients; typically high in sodium, which can cause an increase in blood pressure, which in turn can lead to stroke, heart failure, coronary heart disease and kidney disease. Furthermore, frequent or abundant chip consumption can contribute to high cholesterol levels because of the amount and type of fat the chips contain. Most chips are deep-fried, a process that creates trans fats, the most dangerous type. In addition, the oils used for frying chips are often saturated fats, which also contribute to high cholesterol levels.

Other than that, the potato chip is a wonderful invention....

X-Rays

In the late 1800s, the world was taken by storm by wonderful new inventions. Scientists discovered radiation, radio waves and other invisible natural phenomena. "What will they find next?" people wondered. And then came yet another discovery by a German physics researcher named Wilhelm Conrad Röntgen. This time, though, the discovery was the result of an accident.

Röntgen was experimenting with various types of vacuum tubes. These are glass tubes from which the air has been removed and replaced with gases that conduct electricity. These tubes produce light when an electric current passes through them, much like our fluorescent bulbs. When they were covered in a certain way, the tubes could cause a screen painted with a fluorescent chemical to shine.

At one point, Röntgen covered one of the tubes completely with black cardboard and checked that no light could escape. When he turned on the electric current he noticed a



Wilhelm Conrad Röntgen, the man who discovered X-rays—by accident.



Today the X-ray machine is a basic diagnostic tool that is highly relied upon in medicine.

painted screen several feet away begin to shine. Röntgen was shocked. There was no light leaving the tube; of that he was sure. The room was pitch black. What could be making the screen fluoresce?

At that point, the scientist realized that the tube must be producing a previously unknown form of electromagnetic radiation that was reaching the screen. He knew little about this new radiation, other than that it