Bill Harley and Arthur Davidson

Innovation on Two Wheels
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Glossary

culture (n) . . . . . . a way of life; how people do things like eat, take care of their young, travel, etc.

design (n): . . . . . . a plan or a pattern used to make something

donate (v): . . . . . . to give money, materials, or time to a person or a cause

engineer (n): . . . . . . a person trained to design and build things like engines, machines, and buildings

innovate (v): . . . . . . to improve something that already exists

mascot (n): . . . . . . a person, animal, or thing that represents a group and is supposed to bring good luck

mold (n): . . . . . . a hollow form that a substance like sand or metal is poured into to make a specific shape or tool

motorcycle (n): . . . a two-wheel vehicle that has an engine; can also be called a bike or motorbike

reliable (adj): . . . . dependable; able to be trusted

Table of Contents

Introduction .............................................. 2
Boyhood Friends ................................. 3
Working Together. ................................. 4
Making it Better ................................. 6
Harley-Davidson Motor Company ............. 7
Conclusion .............................................. 9

Glossary .............................................. 12
Introduction

When you have a problem, what do you do? Do you try to fix it?

Innovating means being creative and using new methods to complete a task. Sometimes a person needs to be a little innovative to find a solution to a problem or to improve something.

For example, toothbrushes did not always look like the ones that most people use today. In 3000 B.C., some ancient civilizations used a thin twig with frayed ends to brush their teeth. The Chinese then improved the toothbrush in the 1400s when they began using coarse hog hair attached to a bamboo or bone handle. Fast-forward to 1938, when the DuPont Company started using nylon fibers instead of animal hair. We still use nylon bristles in our toothbrushes today. Without innovation, the toothbrush would not have been improved and people would still be using sticks to brush their teeth!

Bill Harley and Arthur Davidson also used innovation to improve the motorcycle, making it more reliable and efficient. They took their solution to a problem and morphed it into the world-renowned Harley-Davidson Motor Company in the 1900s.

Bill and Arthur had a problem, and they found a solution that not only made their lives easier, but also made travel safer and more efficient for people around the world. They used innovation and creativity to develop the Harley-Davidson Motor Company. This idea that began in their parents’ basement has transformed into one of the top manufacturing businesses in Wisconsin and the United States!
Arthur and Bill continued to stay involved with the company until their deaths. Bill enjoyed designing new engines. In 1936, he designed the “Knucklehead.” This bike had a better engine than previous models, making it more reliable. The Knucklehead became one of the most popular Harleys. When he wasn’t working, Bill enjoyed spending time hunting, golfing, and etching. Bill died on September 18, 1943 as the result of a heart attack.

Arthur became very active in the American Motorcycle Association because he enjoyed teaching others about the motorcycle lifestyle. He also raised prize-winning Guernsey cattle on his farm outside of Milwaukee. Arthur was a well known philanthropist, and he donated a great deal of money and resources to organizations such as the Boy Scouts and a Wisconsin home for the blind. Both Arthur and his wife died in a car accident on December 30, 1950.

**BOYHOOD FRIENDS**

William (Bill) Harley and Arthur Davidson became friends when they were young boys. Both were born in Milwaukee, Wisconsin. Bill was born on December 29, 1880 and Arthur was born on February 11, 1881. He was a quiet, tall boy, while Arthur was talkative and short. The two often went fishing together, riding their bicycles to a nearby lake. Bicycles were very popular in the late 1800s. In fact, by 1896, there were around 4 million bicycles in the United States!

It was often challenging for Arthur and Bill to pedal up the hills to and from their fishing trips. This was a problem for them and they wished there was something that would make this easier. When they saw Edward Pennington, an inventor, ride his motorcycle in Milwaukee in 1895, the boys knew this would be the answer to their problem. They also knew it could help make travel more efficient for other people as well. This sparked their interest in learning more about the motorcycle.
Working Together

Their days fishing together became fewer as the boys parted ways in 1896. Bill moved with his family to the north side of Milwaukee. The same year, Arthur and his family moved to Cambridge, Wisconsin to live on his grandparents’ farm. Living in different cities did not end their friendship, though. Arthur and Bill continued to write letters to each other, sharing information about their lives and their new jobs.

Bill began working in a bicycle factory where he drew designs for new bicycles, and Arthur worked as a pattern maker. Arthur used saws to cut wood into shapes that looked like a part of a machine. These patterns were used to form molds. To make a machine part, hot melted metal was poured inside a mold. This was a very efficient way to make new parts and tools. The skills they learned at their jobs would prove useful in their future careers.

Pattern Making

These are molds that are used to make metal machine parts. A pattern maker creates wood pieces that are used to form molds like this. These wooden pieces are called patterns. To make a mold, sand, metal, or plastic is poured around the pattern. Once it hardens, the pattern pieces are taken out leaving spaces and dents in the mold. Now metal can be poured into the mold so identical parts can be made over and over again. This is called casting.

Conclusion

In the following years, the Harley-Davidson Motor Company continued to make more and more motorcycles, as well as improve them. The company supplied motorcycles to the United States and Great Britain during World War I and World War II. Harleys became well known throughout the world because of their reliability and high quality.

The partners and their brothers were also known for being good business leaders. They treated their workers fairly and had a reputation for building high quality machines, which is why they were inducted into the Labor Hall of Fame in 2004. The brothers and Bill also recognized that their sons were strong business leaders. In 1942, Walter appointed William’s son the new president, Bill’s son the vice president of engineering, and his own sons the head of sales and vice president of manufacturing.

Harley-Davidsons weren’t just ridden for fun. People like these police officers used them to do their jobs.
People called the motorcycles the company made either “Harley-Davidsons” or just “Harleys.” “Hog” and “bike” were also nicknames for the motorcycles.

H.O.G.

Hogs aren’t just pigs. People began calling Harley-Davidson motorcycles “hogs” in the 1920s. A team of boys that raced the motorcycles had a pig as a mascot. Every time they won the race, they would drive around with a pig on one of their motorcycles to celebrate their victory.

In 1983, a group of people created the Harley Owners Group (H.O.G.) to promote the biker lifestyle and culture. Group members gather to go on motorcycle rides together. Today, there are over 1,400 official H.O.G. chapters around the world!

Riding a Harley is more than a hobby for some people; it is a lifestyle.

Here are two pictures of Harley riders and their bikes. The top one is from 1908. The bottom image is from 2005.

Notice how the bikes and the Harley owners clothing have changed!

Arthur met his new friend Ole Evinrude while living in Cambridge. The pair enjoyed going fishing, just as Arthur and Bill had. While fishing, Ole and Arthur’s arms would get tired from rowing because their boat did not have a motor. The two talked about this problem, and they thought of a solution; add a motor to help make their travel easier. Ole went on to invent the outboard motor in 1907. Arthur and Ole remained friends even after Arthur and his family moved back to Milwaukee in 1900.

Once again living in the same city, Arthur and Bill saw each other more often and kept working on improving the motorcycle. In 1901, Bill drew his first sketch of a motorcycle engine. The two worked tirelessly in Arthur’s parents’ basement to make their own machine. However, they needed help. Arthur and Bill talked with their friend Ole, and he gave them advice about how to improve the engine. They also recruited Arthur’s older brother, Walter, to help build the motorcycle.
Making It Better

Bill, Arthur, and Walter kept working hard together. They finally made their first motorcycle in 1903. They were ecstatic! But this first machine was not very reliable. It did not have very much horsepower, nor did it travel very fast. The trio was determined to make it better.

Bill saw getting an education as one way to do this. He went to the University of Wisconsin-Madison to become a mechanical engineer. Bill learned as much as he could about gas engines so that he could use what he learned to improve the motorcycle. Arthur and Walter continued working in a wooden shed in their parents’ backyard, making and selling about seven motorcycles in 1905. Bill, Arthur, and Walter wanted to make even more machines, but they needed more space. They bought a new factory in Milwaukee in 1906. That year, production increased to 50 motorcycles.

Harley-Davidson Motor Company

Bill graduated from college in 1907. With business about to boom, the trio officially established the Harley-Davidson Motor Company. Walter was a very good businessman, and the team decided he should be the company president. Bill was the company’s chief engineer, and Arthur was the top salesman. Arthur and Walter’s brother, William, also joined the Harley-Davidson team in 1907. He was the company’s floor supervisor and managed the company’s workers. The four business leaders now worked tirelessly to make their motorcycles better known throughout not only the country, but also the world.

Harley and the Davidsons entered their motorcycles in endurance races as a way to promote their innovation. Walter and several other riders often participated in long, often dangerous races over hills and through the wilderness to prove the speed and reliability of the Harley-Davidson motorcycle. This strategy worked. People saw how well built the machines were, and sales took off. In 1914, over 20,000 motorcycles were sold. Technology also improved the factory’s equipment, which enabled the company to make a new motorcycle every 5 ½ minutes. In 1904, it had taken Harley and the Davidsons about four months to build one new bike!

The Davidsons’ little sister painted the name “Harley Davidson Motor Company” on the family’s shed door. The name stuck, and it became the official company name!