

The Wright Brothers Were Wrong!

Susan Kelly Archer, Ed.D

Embry-Riddle Aeronautical University

Daytona Beach

Florida USA 32224

Abstract

The Wright brothers have long been recognized as American heroes for their contributions to the early development of aviation. When one views the brothers' contributions after the success of their flyer, it might appear to some observers that historians overlooked certain idiosyncrasies in the Wrights' behaviors. They effectively combined research by other aviators, such as Sir George Cayley's research that introduced the four forces of flight, the airfoil, and the relationship between airfoil position and lift, and Otto Lilienthal's work with gliders, with their understanding of mechanical movement and their mechanic Charles Taylor's effective engine design to develop their flyer. The public record clearly records their flight on December 17, 1903 as the first sustained, manned, powered, controlled flight. As the creators of the flyer, they certainly had the legal right to patent their invention; the question one must answer is whether their subsequent patent lawsuits were appropriate.

Keywords: Wright brothers, patent lawsuits, Wright flyer, Glenn Curtiss

1. Introduction

The Wright brothers have long been considered American heroes for their contributions to the early development of aviation. When one views the brothers' contributions after the success of their flyer, it might appear to some observers that historians overlooked certain idiosyncrasies in the Wrights' behaviors. As the first to achieve manned, powered flight, the Wrights were heralded as innovators. Yet, within a few short years they filed numerous patent lawsuits and exhibited almost paranoid behavior. Their decision to file patent lawsuits may have been the right decision in the eyes of members of an overly litigious society, but it was very wrong for development of the airplane.

2. Background

The Wright brothers did not design, nor did they construct, their airplane in a vacuum. Based upon an early interest in a toy helicopter given to the brothers as a souvenir from one of their father's trips as a cleric, both brothers turned a fascination for what Otto Lilienthal had done with gliders in Germany into what one might suggest was a natural next step, powered flight (Gibbs-Smith, 1970; Shipman, 1998; Whelan, 2000). They fueled their fascination and inventive advances by reading every available article or report regarding glider development and the embryonic field of aviation (Shipman, 1998; Whelan, 2000). Octave Chanute, recognized by many as a conduit for information from and to all players in the international aviation community, maintained regular communication with the Wright brothers (Crouch, 2003; Whelan, 2000). He encouraged their in-depth study of existing work and their exploration of innovation in design to further the new discipline. Early in their model testing in 1901, the Wrights invited Chanute to their Kitty Hawk, NC camp to participate in what one might expect to have been a collegial site for inventors, engineers, and experimenters (Crouch, 2003). The work in 1901 focused on controlling the flight of gliders. Over the next year, the Wrights attacked the problem of designing and building an engine that would be light enough to not impede an airplane's lift capability, but when combined with a successfully-designed propeller would be able to generate enough thrust to propel an airplane so that it could lift off the ground (Crouch, 2003). Based on their previous focus on everything that had been done to date with gliders, it seems safe to assume they would have read everything available about power supply. They won the race to be the first to achieve manned, powered flight, but their achievement was based at least in part on the work of others.

At the turn of the century, most early aviation enthusiasts were willing to share information with others, and one might have suggested the field of aviation advanced rapidly because of this sharing of information

3. The Patents

Orville and Wilbur Wright saw great promise for financial fortune in their invention. They applied for a patent before the memorable Kitty Hawk flight in December of 1903, but were turned down and advised to seek the assistance of a patent attorney (Crouch, 2003). Interestingly, the invention for which they sought a patent was not the flyer for which they are remembered (the first manned, powered, controlled flight in December 1903), but a previous design for a controllable glider. The result was a 1906 document interpreted so broadly that almost nothing could happen with aircraft development without their permission (Shulman, 2002). By definition, a patent was an intellectual property right (United States Patent..., 2011). It was awarded by the U.S. government to an inventor "to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States" for a limited time in exchange for public disclosure of the invention when the patent is granted (United States Patent..., 2011). A key piece of this definition lay in the final phrase, "...public disclosure of the invention when the patent is granted" (United States Patent..., 2011). This statement implied that the engineering or design was to be shared so that the field of study could advance. The Wright brothers did not share their invention with many people. They appeared to have made their inventive design public in order to generate significant wealth (Shulman, 2002), as they went to great lengths to display and market their aircraft to the U.S. military and foreign governments (Brady, 2000). They also began a series of court battles based on their intellectual property rights (Crouch, 2003).

4. The Lawsuits

Orville and Wilbur Wright seemed intent on flexing their legal muscles on both sides of the Atlantic Ocean. They filed lawsuits to prohibit Glenn Curtiss' company from manufacturing, selling, and exhibiting aircraft, and to exclude the Aeronautic Society of New York from displaying a Curtiss airplane (Crouch, 2003). Their contention was that Curtiss' use of ailerons as flight control surfaces were a natural derivation of their patented wing-warping and the U.S. Circuit Court judge ruled that they were correct (Brady, 2000). Subsequent lawsuits ensued over patent infringement after Curtiss dissolved the Curtiss-Herring Company (party to the first lawsuit) and formed his own company to manufacture commercial aircraft.

During this time, the Wrights also filed patent infringement lawsuits in France. They had obtained French patents, and sued six different French aircraft manufacturing companies (Crouch, 2003). These lawsuits dragged on through the French court system for so long, the patents expired, and the lawsuits were never resolved. The Wright brothers also had patents in Germany. In what may have been a preemptive strike, a German aircraft builders' consortium sued the Wrights to overturn the patents and the courts sided with the consortium (Crouch, 2003). Winning or losing in court, the brothers were much more focused on their legal battles than on advancing aviation.

The results of these lawsuits for the Wrights were not all favorable. Even though judges' decisions may have been in their favor, and they won financial awards ranging from specific dollar amounts to royalties that aviators had to pay to use the ideas associated with the patent, the ugliness of prolonged litigation did take its toll. Wilbur Wright's health declined and he died of typhoid in 1912 (Crouch, 2003). The Wright family maintained that the patent litigation stress and exhaustion led to Wilbur's susceptibility to typhoid (Crouch, 2003; Shulman, 2002). Additionally, the court battles were fought outside the legal courtroom due to press involvement. The public appeared to view the Wrights less favorably than it viewed Curtiss. The brothers were even shunned by other members of the aviation community (Crouch, 2003). The lawsuits against Curtiss waged for years, and probably would have continued had World War I not started. Once the war began, the United States needed aircraft from both the Wright and Curtiss companies to support the war effort. Patent lawsuits were shelved, and both companies were contracted to provide much needed aircraft. In an ironic twist, the two companies merged in 1929 (Shulman, 2002).

5. Conclusion

It is from this final irony that one might see the most support for the contention that the Wrights were wrong. They were right to patent their work, even though it was based on work done by others for many years prior to their involvement in aviation.

However, their decision to litigate rather than contribute to the development of aviation was wrong. They appeared to focus on making money through government contracts and litigation of their patent rights, rather than on nurturing the next generation of aircraft and designers. They were portrayed by the press in a very negative light due to the publicity of the lawsuits. Then, in the end, their company joined with the very company owned by the rival they had spent so many years battling in court. It is somewhat mind-numbing to try to imagine the number of advancements that might have been made in aviation if Orville and Wilbur Wright had spent their time perfecting their design and communicating with the aviation community to further the field, instead of fighting courtroom battles.

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