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A History of PPG Industries

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Introduction

Every enterprise has a story, a narrative woven from ambition, innovation, and adaptation. Some stories, however, resonate with a particular significance, reflecting not only the journey of a single company but also the broader currents of industrial and economic history. Such is the story of PPG Industries, a company that began as a daring venture in plate glass manufacturing in the late 19th century and evolved into a global powerhouse in coatings, specialty materials, and glass. This book, *A History of PPG Industries: The Story of an S&P 500 Company*, delves into this remarkable trajectory, offering a comprehensive account of a firm that has consistently redefined itself across more than 140 years.

From its founding in 1883 as the Pittsburgh Plate Glass Company by Captain John B. Ford and John Pitcairn, Jr., PPG embarked on a path of relentless innovation. At a time when European manufacturers dominated the plate glass market, PPG emerged as the first commercially successful producer of high-quality, thick flat glass in the United States, establishing its initial factory in Creighton, Pennsylvania. This pioneering spirit, which saw the company quickly expand and diversify into paints and protective coatings by the early 1900s, would become a hallmark of its enduring success. By 1900, it had already secured a 65 percent share of the U.S. plate glass market and was the nation's second-largest paint producer, laying the groundwork for a diversified future.

The journey of PPG Industries is more than just a chronological recounting of events; it is a testament to strategic foresight, technological advancement, and an unwavering commitment to meeting evolving market demands. As an S&P 500 company, PPG's history mirrors the ebb and flow of global industry, navigating through economic depressions, world wars, and periods of unprecedented growth and technological change. The company's ability to pivot from its foundational glass manufacturing into chemicals, resins, and eventually becoming a world leader in automotive and industrial coatings, optical resins, and fiberglass, demonstrates a dynamic adaptability that few companies achieve.

This book explores the pivotal moments and strategic decisions that shaped PPG. It examines how the company not only pioneered innovations in glass manufacturing, such as the Pittsburgh Process for mass-producing sheet glass and the Creighton Process for laminated safety glass for automobiles, but also strategically diversified its portfolio. From entering the chemical arena and expanding internationally in the early 20th century to embracing new technologies in the post-war boom and establishing a strong brand identity, each chapter illuminates a crucial phase in PPG's development. We will trace its global ambitions, its significant acquisitions and divestitures, and its

continuous investment in research and development, which has served as a powerful engine for growth.

Ultimately, *A History of PPG Industries* offers valuable insights for anyone interested in the resilience and evolution of major corporations. It is a story of how a company, born from a singular vision, can grow to operate in over 70 countries globally, becoming a Fortune 500 mainstay and a leading supplier of products across numerous industries, including automotive, building, aerospace, and consumer markets. Through its triumphs and challenges, PPG Industries has left an indelible mark on the industrial landscape, a legacy of innovation and impact that continues to shape the world we live in.

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CHAPTER ONE: The Early Days: From Plate Glass to Pittsburgh Plate Glass

The story of PPG Industries begins in the burgeoning industrial landscape of late 19th-century America, a time when innovation and daring entrepreneurs were shaping the nation's future. It was an era where grand visions were often met with formidable challenges, and the quest to produce high-quality plate glass in the United States was certainly one such endeavor. Before the 1880s, more than a dozen American plate glass manufacturers had tried and failed to compete with their well-established European counterparts, particularly those in Belgium, England, France, and Germany, which dominated the market. The expertise required for crafting large, clear sheets of glass was largely a closely guarded European secret, and the cost of production in America remained prohibitively high.

Into this challenging environment stepped two remarkable individuals: Captain John Baptiste Ford and John Pitcairn Jr. Ford, a seasoned entrepreneur with a diverse background ranging from dry goods to shipbuilding and even an early foray into glassmaking, was a man of relentless ambition. Born in a Kentucky log cabin in 1811, Ford's early life saw him apprenticed to a saddlemaker before running away at 14. He later built a successful steamboat fleet, earning him the honorific "Captain." By 1864, Ford, alongside his son Emory, had already successfully pioneered the technology to produce the first plate glass in the United States, though an earlier glass venture ultimately faced financial difficulties.

John Pitcairn Jr., on the other hand, was a Scottish immigrant who arrived in America in the 1850s. A self-made industrialist, Pitcairn had climbed the ranks of the Pennsylvania Railroad, starting as an office boy at 14 and eventually becoming a superintendent. He also demonstrated keen foresight by investing his savings in Pennsylvania's burgeoning oil and natural gas industries, amassing a considerable fortune. Pitcairn's financial acumen and Ford's entrepreneurial drive would prove to be a powerful combination.

In 1883, these two visionaries joined forces, along with several other associates, to establish the Pittsburgh Plate Glass Company (PPG). Their audacious goal was to overcome the failures of their predecessors and successfully manufacture high-quality plate glass on American soil, directly challenging the European stronghold. The chosen location for their ambitious undertaking was Creighton, Pennsylvania, an unincorporated community nestled along the Allegheny River, approximately 20 miles northeast of Pittsburgh.

Creighton was not chosen by chance; it was a strategic decision driven by practical considerations. The Allegheny River provided a vital waterway for shipping raw materials and finished products. Furthermore, the area boasted abundant coal and, crucially, natural gas reserves nearby, which were essential to fuel the immense furnaces required for glassmaking. The availability of local natural gas was a significant innovation for PPG, making it the world's first plate glass plant to power its furnaces with this cleaner-burning fuel, an advancement that quickly spurred its wider industrial adoption.

The initial factory, known as Works No. 1, opened its doors in Creighton in 1883. This facility marked a turning point in American industrial history, as it became the first commercially successful producer of high-quality, thick flat glass in the United States using the plate process. The plate glass manufacturing process at the time was a labor-intensive affair. It involved rolling molten glass onto large metal tables, a method that produced heavy, often uneven, pieces of glass. These rough plates then required extensive grinding and polishing to achieve the clear, smooth, distortion-free surfaces suitable for windows and mirrors.

The success of Pittsburgh Plate Glass Company in its early years was a testament to the dedication and astute management of its founders. John Pitcairn, in particular, became deeply involved in the day-to-day operations, ensuring that the new enterprise would not succumb to the fate of its predecessors. His leadership was instrumental in navigating the complex technical and financial challenges inherent in establishing a large-scale industrial operation. Under his guidance, the company focused intently on innovation and maintaining high standards of quality.

The demand for plate glass was growing rapidly in the late 19th century. Architecture was evolving, with larger window units becoming more common in both commercial buildings, such as department stores, and increasingly in residential homes. Plate glass offered superior clarity and strength compared to other forms of glass available at the time, making it highly desirable. Before PPG's success, this demand was largely met by expensive imports. By successfully producing plate glass domestically, PPG began to chip away at this reliance on European manufacturers.

The company's rapid growth was soon evident. Just a few years after its founding, by 1886, PPG established Works No. 2 in Tarentum, Pennsylvania, just upriver from Creighton. Captain Ford, ever the entrepreneur, had a habit of building glass plants, and after the Creighton factory proved profitable, he moved his operations to Tarentum. He later even founded Ford City, Pennsylvania, a company town named in his honor, to support further expansion. These early expansions laid the groundwork for PPG's eventual dominance in the American plate glass market.

The foresight of Ford and Pitcairn extended beyond merely setting up factories. They

recognized the need for a reliable and cost-effective supply chain for their raw materials. Glassmaking requires significant quantities of silica (sand), soda ash, and limestone. While sand was readily available, securing soda ash was crucial. By the turn of the century, this understanding led to PPG's strategic diversification into chemicals, a move that would prove foundational for its future.

The burgeoning American economy, coupled with PPG's innovative production methods and strategic expansion, allowed the company to quickly gain a significant foothold in the market. By 1900, Pittsburgh Plate Glass Company had grown to encompass ten plants and commanded an impressive 65 percent share of the U.S. plate glass market. This remarkable achievement in less than two decades solidified its position as the largest plate glass manufacturer in the United States. The early days, marked by calculated risks, technological prowess, and a keen understanding of market needs, firmly established PPG as a force to be reckoned with in American industry.

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