John D. Rockefeller and the Modern Corporation

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John D. Rockefeller, founder of Standard Oil, in 1884.

Had the *Forbes 400* existed at the turn of the twentieth century, John Davison Rockefeller would have reigned at the top of the list. Living for nearly a century, and surviving decades of competition in the Darwinian oil industry he helped to create, Rockefeller amassed a fortune of $900 million in 1913 and provided the basis for one of America's greatest philanthropic foundations.

In its infancy, oil was a chaotic, haphazard business. Wildcatters could drill a crude oil well or build a refinery with a small capital outlay. Rockefeller was among the first to set up refineries in Cleveland, which lay at the terminus of the railroad lines leading out of the Oil Regions of Pennsylvania. U.S. oil production soared from 2,000 barrels during 1859 to 450,000 a year later, and by 1862, it had gushed to three million barrels. With each successive year, Rockefeller's fortune grew. In the mid-1860s, when the end of the Civil War signalled a period of unprecedented economic expansion, Rockefeller brought in new interests, recapitalized his firm, and began to buy out the competition. By 1870, when he formed the Standard Oil Company of Ohio, Rockefeller owned all of the refineries in his home base. He would ultimately own nearly all of the nation's oil industry.

Rockefeller recognized that refining oil would not insure his firm's survival, as refining capacity was outpacing demand for its product. In an effort to control the oil's means of transportation to market, Standard established terminal warehouses, pipeline networks, and even barrel factories, Most significantly, Rockefeller muscled rebates from the railroads, whereby he would receive enormous price reductions for a guaranteed cargo. For a time he even forced the railroads to pay him rebates on oil shipped by his competitors.

Many of Rockefeller's practices were subsequently—and infamously—deemed illegal under antitrust legislation. And the integrated system of production and distribution he established was not entirely unprecedented. His most lasting contribution lay in the systems of professional management he developed that integrated the many aspects of his business. In the words of the great business historian Alfred D. Chandler, "An understanding of the history of the Standard Oil Company is essential to the understanding of the rise of the large corporation in the American economy."

A Bookkeeper Becomes a Force in the Early Oil Refining Industry

John D. Rockefeller was born in 1839 on a small farm in upstate New York during the presidency of Martin Van Buren. In 1853, his father, William Avery Rockefeller, an occasional farmer, small-time entrepreneur, and scam artist, moved from upstate New York to Cleveland with his deeply pious wife and five children. Growing up in the booming industrial city on the shores of Lake Erie, John took less after his father than his somber mother, from whom he learned the value of thrift. "How well I remembered then, as I remember now, the words of my dear mother," he recalled much later in life. "'Willful waste makes woeful want!'"

Rockefeller put this adage to practice when, upon completing secondary school and a few business courses at Folsom's Commercial College, he found work as a $4-a-week bookkeeper for a Cleveland dry goods merchant. As he detailed the company's operations in a ledger book, he first grasped the intricacies of commercial enterprise. "John D. seemed to have no inner life unconnected with numbers," as his sympathetic biographer David Freeman Hawke wrote. This job, Rockefeller later said, "formed a large part of the foundation of my business career." Obsessed with attaining professional and financial independence, John scrimped and borrowed for three years, until he had enough—$1,800— to set up shop in 1859 as a dry-goods trader with Maurice Clark, a British immigrant. The business thrived, especially after the outbreak of the Civil War in 1861, when the army bought huge quantities of grain, pork, and other staples.

Meanwhile, a few hundred miles to the East, adventurers were beginning to deal in a far more precious commodity: oil. In the 1850s, kerosene extracted from coal and shale began to replace whale oil as a safer and more reliable source of energy. Researchers soon realized they could refine kerosene from the vast fields of petroleum lying just under the surface of Midwestern valleys and mountains, The U.S. oil industry boomed after August 27, 1859 when "Colonel" Edwin Drake plunged his salt-mining rig into an Allegheny Mountain valley near the tiny lumber town of Titusville, Pennsylvania. Prospectors thronged into what became known as the "Oil Regions," as the industry flourished, and public demand for the new fuel grew rapidly. They poured the crude oil into barrels, trundled them onto barges, and floated them down creeks and rivers to railroad junctions heading east and west. Many of the barrels wound up on the rails of the Atlantic & Great Western Railroad, and the western terminus of that line, Cleveland, emerged as a small refining center. The chemistry behind refining—heating crude oil with steam power to distill gasoline and kerosene—was relatively cheap and simple. By 1863, the 20 small factories huddled along the banks of the Cayuhoga River produced about 100,000 barrels of refined oil each month.

Rockefeller watched as Cleveland-area businessmen made quick fortunes in oil refining, and he too was caught up in the heady excitement. In 1863, he and Clark invested $4,000 with an acquaintance, Samuel Andrews, to build and operate a refinery. Although it bore a noble name, the Excelsior Works, the enterprise was really a humble collection of wooden sheds. While Andrews devised ways to improve the efficiency of the refining process, Rockefeller handled other aspects of the business, insisting in particular that all profits should go right back into the company. "I wanted to go in the army and do my part," Rockefeller later said, explaining why he didn't fight in the Civil War. "But it was simply out of the question. There was no one to take my place. We were in a new business, and if I had not stayed it must have stopped."

At a time when Charles Darwin's theories on evolution were first gaining wide currency, the oil industry seemed to hew to the scientist's new creed. The only businesses able to survive the competition were those able to adapt to rapidly shifting circumstances. Because of the unexpected rise in production, the price of crude fluctuated wildly— plunging from $10 a barrel to fifty cents a barrel between January and June of 1861. In 1864, the price per barrel ranged between $4 and $12.13. The price swings were further aggravated by transportation problems: a few railroads held a stranglehold on the delivery of oil. As profit margins shrank amidst heightened competition, many speculative operators perished.

A Small Proprietorship Develops into a Primitive Company

Unable to control the price of vital raw materials, Rockefeller focused his attention on the costs of the industrial commodities that he could control. Barrels, which cost about $2.50 apiece, were one of the Excelsior's main expenses. In 1864 Rockefeller used some of his reinvested capital to set up a barrel-making operation on the refinery's property, reducing the per-barrel cost to about 96 cents. Determining that the best way to boost his profits was to raise production, he borrowed money to open a second refinery, the Standard Works. But he ran into conflict with his partners who were unwilling to go further into debt to finance expansion. In February, 1865, he bought them out for $72,500. He later reflected, "I look back on that day in 1865 and it seems to me one of the most important in my life. It was the day that determined my career." Weeks after the transaction, Rockefeller dissolved the dry-goods company and focused all his energies on oil.

The company's early success was due to Rockefeller's extraordinary drive and legendary attention to detail. "I shall never forget how hungry I was in those days," he later recalled. "I stayed out of doors day and night; I ran up and down the tops of freight cars when necessary." By 1865, the Excelsior Works had become one of the largest Cleveland refineries, producing about 505 barrels each day. From the outset, the U.S. oil industry sent much of its refined output to Europe, where oil products were in high demand as illuminants and lubricants. In 1866 alone, exports boomed from 600,000 barrels to 1.5 million. In a farsighted move, Rockefeller enlisted his younger brother, William, to open a New York office where he would promote kerosene exports. With this action, Standard became one of the first refiners to expand its scope of operations. And as William made contact with foreign buyers, the company established an independent distribution channel for its products.

In a second step toward the division of executive labor, Rockefeller brought in Henry Flagler as a partner in 1867. Flagler, who had built a small fortune as a liquor and grain wholesaler, used his expertise in transport to negotiate and cut deals with the railroad operators. Insuring an affordable and reliable means for delivering the product assumed greater importance as output for Standard Works increased to 1,500 barrels a day by 1869. And here the economies of scale began to kick in. "While unit costs for a refinery with a 500 barrel daily throughput was around six cents a gallon, those in the refinery with a 1,500 barrel throughput dropped to three cents a gallon and probably less," wrote Alfred Chandler, quoting the oil historians Harold F. Williamson & Arnold Daum. Greater production enhanced Standard's leverage with producers and suppliers. "Paint. Glue. We bought ours far lower than anyone else could, since ours was a steady demand for the largest quantities. . . ," Rockefeller later said. In a further effort to insulate his enterprise from the predations of suppliers and vendors, he acquired his own fleet of wagons, storage depots near railroads, and warehouses in New York Harbor.

In the post-Civil War years, oversupply and overcapacity wreaked havoc in the refining industry. As prices for refined kerosene fell more than 50 percent between 1865 and 1870, most refiners' per-gallon margins shrank from 19.5 cents in 1865 to 7.9 cents in 1869. Standard also suffered, with its profit margins shrinking from 43 cents per gallon in 1865 to 17 cents in 1870. Rockefeller's margins were higher than the industry average because of Flagler's shrewd negotiations with the railroads. In 1870, he cut a deal with the Lake Shore Railroad, a subsidiary of the New York Central: Standard would guarantee to ship sixty carloads of refined oil a day over Lake Shore's tracks from Cleveland to New York, if the railroad would grant Standard a rate of $1.30 a barrel— 35 percent off the published rate of $2 a barrel. Rebates like this one were a common practice between railroads and their major customers, and while it provided large firms with unfair advantages over rivals, it was perfectly legal.

Consolidating the Cleveland Refining Complex

The railroad deals confirmed what Rockefeller had long suspected: size begets advantage. Surveying the refining business in 1870, the 31-year- old began to think about expanding further. Despite the oil industry's chaos, Rockefeller had a clear vision of where **it** was going, and the key role his company could play in **it.** Following his instincts, he and his associates set out to combine all of Cleveland's refineries into a single firm in order to gain still greater leverage over railroads and crude oil producers. And since corporations could borrow and issue stock much more easily than could partnerships, Rockefeller merged the two partnerships that ran the Excelsior Works and Standard Works refineries into The Standard Oil Company. Capitalized at $1 million, Standard Oil would eventually grow into a multibillion-dollar enterprise. "None of us ever dreamed of the magnitude of what proved to be the later expansion," he recalled.

Once Standard Oil was established, Rockefeller approached weaker competitors with a simple proposition: join us or face the ravages of heightened competition. "We will undertake to save you from the wrecks of the refining business and give you a return on the capital which you have in the plant and land; or, if you prefer we will take the business off your hands," he said simply. When making his pitch, Rockefeller was the picture of somber propriety. Having inherited a deep religious faith from his mother, he was a regular at the Euclid Avenue Baptist Church in Cleveland, and served as the Sunday School's superintendent. Devoid of bluster or emotional display, Rockefeller measured his words carefully, and appraised adversaries with piercing blue eyes. But those who resisted his initial overtures would receive a concise, matter-of-fact follow-up. "You can never make any more money, in my judgment. You can't compete with Standard," he told one reluctant refiner. "We have all the large refineries now. If you refuse to sell, it will end in your being crushed."

Given their shrinking profit margins and difficulties in dealing with the railroads, many refiners found Rockefeller's offer impossible to refuse. Among the biggest and first to enlist in his campaign was Clark, Payne & Company, the largest local rival. After this merger, smaller firms quickly fell into line. Within two years Rockefeller had bought twenty-three companies, eighteen of which were refineries, with all but one of them located in Cleveland.

By the end of 1872, Standard had boosted its capacity sixfold and was refining 10,000 barrels a day. With 80 percent of Cleveland's refining industry under its roof, the company already stood as the nation's largest refining complex, and some businessmen thought Rockefeller had grown too big too quickly. "It has no future," said Robert Hanna, a Cleveland refiner. "The organization will fall by its own weight." But in this age, heft was a prerequisite for survival, and Standard fed on its competitors like a bear bulking up for winter.

Rockefeller began to seek points of leverage against potential prey. In 1872, he joined the South Improvement Company, a shell corporation erected by refiners to formalize rebate agreements between railroads and oil firms. Under the compact, members of the company would receive 40 percent to 50 percent rebates for crude oil and 25 percent to 50 percent for refined oil from a group of railroads in exchange for supplying a guaranteed cargo. The Pennsylvania Railroad would receive 45 percent of the members' cargo, with the New York Central and Erie railroads, each receiving 27.5 percent. In addition, Standard—and Standard alone—would receive a percentage of the full cargo fare paid by rival refiners. The scheme, which appeared corrupt even by the loose mores of the day, quickly collapsed after enraged crude oil producers led protests in the Oil Regions. Undaunted, Rockefeller sought a different means of organization. In August 1872, he gathered members of the oil industry to form the National Refiners' Association (naming himself president) to negotiate terms with producers on behalf of all refineries. When **it,** too, fell apart (due to a depression that began in 1873), he characteristically rationalized his anti-competitive efforts as an attempt to bring order to a chaotic sector of the economy. "Among so many men untrained in business there were many who could not be relied upon to aid in solving a problem so difficult as the reformation which my associates and I sought to bring about in this industry," he said later.

Seeking Stability Through Horizontal and Vertical Integration

Despite the lack of a refiners' association, Standard's size alone left it in a position to swallow up its weaker competitors. As the oil fields in Pennsylvania boomed, U.S. production rose from 5.3 million barrels in 1871 to 9.85 million two years later. But after the onset of a five-year-long depression in 1873, crude oil prices started tumbling, dropping from $4.40 a barrel in 1871 to $1.15 in 1874.

Having consolidated the Cleveland-area refineries into one large industrial enterprise, Rockefeller moved simultaneously in two directions: horizontally and vertically. Operating out of five rooms in an office building in downtown Cleveland, he and his partners acquired refineries in other parts of the country. Chief among these were Jacob Jay Vandergrift's Imperial Refining Company, based in the Oil Regions, and Charles Pratt & Company, which had refineries in New York, Philadelphia, and Pittsburgh.

Standard also bought interests in a new mode of transporting crude oil: pipelines. The first of these, a modest 5-mile affair, had been built in 1865. Control of these pipelines could enable Standard Oil to circumvent the railroads. In the 1870s, Rockefeller began snapping up pipeline companies, soon owning most of them. In 1873, after he outbid Commodore William Vanderbilt for control of a pipeline concern, Vanderbilt remarked: "That Rockefeller. He will be the richest man in the country!"

As Rockefeller added satellite refineries and pipelines, creating a nationwide factory, he encountered a new management problem. In the nineteenth century, corporations were generally prohibited from owning or controlling companies in states other than their home state. So in theory, the original Standard Oil Company couldn't operate outside of Ohio. Rockefeller had skirted this legal unpleasantry through a subtle sleight of hand. He would instruct any out-of-state company he acquired to turn over its stock to a Standard officer as a trustee, and continue to operate as an ostensibly independent concern. In the 1870s, for example, when Standard bought Jabez Bostwick & Company, Rockefeller allowed Bostwick to run the business under his own name—but only on paper.

As Rockefeller built his empire, the division of executive labor, begun in the 1860s, became even more important. The historian Allan Nevins noted: "Never had any corporation faced a situation comparable in magnitude and confused variety with that of the Standard in the fall of 1877." To compound the problem, there was no established management model to help Rockefeller. The concept of corporate business management didn't exist in the 1870s. Rockefeller's task was made even more difficult because the men he had to work with were strong-willed entrepreneurs who were accustomed to ruling their own outfits. But he offered a financial incentive to cooperate. Whenever possible, he brought the management of companies he acquired into the Standard fold. He also paid for acquisitions in Standard stock, which was not publicly traded, giving the sellers immediate stakes in the success of the larger venture. "His greatest contribution, beyond the concept of the Standard Oil combination itself, was the persuasion of strong men to join the alliance and to work together effectively in its management," wrote the Standard historians Ralph and Muriel Hidy.

While the home office in Cleveland set overall policy, the heads of the previously independent companies remained semi-autonomous. Jacob Jay Vandergrift, who joined the firm as a director when Standard acquired his refining concern, was in charge of the pipelines; Jabez Bostwick handled the purchasing of crude oil in the Oil Regions; Flagler continued to work out favorable deals with the perpetually hostile railroads; and longtime Standard lawyer Samuel Dodd came on as chief counsel. With these arrangements, Standard began to take on the appearance of what we would recognize today as a modem corporation. While Rockefeller remained the ultimate authority, he had laid the groundwork for a division of professional management. In 1879, according to one subordinate, Rockefeller described his governing philosophy of delegating responsibilities as: "It is this; nobody does anything if he can get anybody else to do it."

Rockefeller and his colleagues realized that they could not keep on top of every aspect of the company's holdings, since they had grown so large and complex. To supervise its operations, Standard Oil began to develop committees, which met at the company's New York offices. Since data was required to monitor the performance of units, the New York-based directors decreed that managers responsible for different business units should file quarterly reports to the board. In an effort to be close to its new headquarters, Rockefeller moved his wife, Laura, and their four children to New York, where they took up residence in a four-story brownstone on 54th Street, just off 5th Avenue. (The family also kept a large estate in Westchester County called Pocantico Hills, complete with its own 12-hole golf course.)

Rockefeller Forms a Trust to Manage an Unwieldy Enterprise

By 1877, the historian Albert Carr noted, "no one could ship oil in quantity anywhere in America without the approval of Standard Oil." Such power brought the company a great deal of unwanted attention, from competitors, politicians, and various legal authorities. In 1879, for example, the New York State Assemblyman Alonzo Hepburn opened a public investigation into Standard's relationships with the railroads. But Rockefeller and his officials generally got off lightly—in part because they engaged in the then-common practice of bribing key state legislators—and Rockefeller continued to increase his sphere of influence.

By the 1880s, international demand for petroleum and its byproducts boomed as industrial machines and combustion engines required ever-increasing quantities of fuel. This led to a race to slake the world's thirst for oil. Despite its dominant position in the American market, Standard now faced external competitive problems. Massive oil reserves had just been discovered in the Russian Caucasus, and they became active wells. A railroad from the Baku oil fields to the Black Sea was slated for completion in 1883. Such competition meant that American oil firms faced pressure to reduce their prices, pressure that even the mighty Standard Oil could not ignore.

Standard's managers found a solution: The formation of a trust would streamline the growing company by enabling it to control costs, increase profits and improve management. In 1881, Samuel Dodd drew up the agreement in which shareholders in the dozens of companies controlled by Standard would trade their shares in the companies for shares in the newly created trust. Rockefeller owned about 28 percent of this new stock. In exchange, control of the enterprises would revert to a group of nine trustees, including the Rockefeller brothers, Flagler, Bostwick, and a few other key executives. An arrangement of this magnitude was unprecedented in American business, When it became effective on January 2, 1882, the trust already controlled 80 percent of the nation's refining business, 90 percent of the nation's pipelines, and held dominant positions in related areas such as tank cars, petroleum byproducts, and barrel making.

But the trust posed new management challenges. Initially, the trustees allowed the managers of subsidiaries to run the units, while reserving the right to approve any appropriation over $5,000. The trustees' Executive Committee—whoever happened to be at 26 Broadway in New York—met every day at lunch. "Our general rule was to take no important action till all of us were convinced of its wisdom," said Rockefeller. Consensus was necessary, for the Trust was now an assemblage of interrelated and interdependent companies. The smooth functioning of the whole was predicated on the reliable performance of every constituent unit. Thus, while granting the subsidiaries a degree of autonomy, the central administration imposed substantial requirements on them. Each Standard unit was expected to show a profit on its own, for example. And George Vilas, a salaried trustee, began to visit different units and impose uniform financial reporting requirements on them.

With this new division of executive labor, the trust began to work through committees consisting primarily of senior executives from its large constituent units, aided by a permanent staff at the New York office. Separate committees dealt with transportation, exports, manufacturing, cases and cans, cooperage, lubricating oil, domestic marketing, and production. The trust's executives expanded the industrial powerhouse in new directions. They spearheaded a drive into marketing, establishing a network of retail stations that would insure a steady flow of quality-controlled refined product to the public. This drive boosted the number of company-owned kerosene and gas stations from 130 in 1882 to 3,500 in 1906. The process of vertical integration was complete when Standard finally began drawing crude oil from the ground. In 1881, after prospectors hit major veins in the flats near Lima, Ohio, the company began to snap up oil fields near its historic base. By 1891, Standard drew 5 percent of all the American crude that was taken from the ground, by 1895, crude extraction accounted for 14 percent of the ecornmy's earnings.

Standard Oil Company now embodied the principle of a twentieth century factory—it facilitated a continuous flow of raw materials through various links in a production chain until it emerged as a finished consumer product. Rockefeller could control every movement of a drop of oil, from the time it was pumped to the earth's surface in Pennsylvania to the time a California farmer purchased a gallon of kerosene at a local Standard station.

In the 1890s, Rockefeller, though only in his fifties, essentially removed himself from the daily affairs of the Standard Oil Company, in large part on the orders of his doctor, who warned of an impending physical breakdown if he continued to work. In the ultimate expression of the new distinction between management and ownership that Rockefeller had pioneered, he and his entire generation of associates gradually left the business in the hands of a younger group of salaried executives with proven managerial mettle.

Rockefeller devoted much of the rest of his life to charity. He endowed the University of Chicago in 1892, and set up a foundation that dispensed millions to educational and health efforts around the world, These activities did little to assuage a public resentful of his wealth, power, and control over a commodity as vital as oil. Crusading journalists and the popular press viewed him as predatory and hopelessly corrupt. In 1888, the New York *World* dubbed Rockefeller "the father of trusts, the king of monopolists, the czar of the oil business." The muckraking journalist Ida Tarbell, wrote, "There was something altogether indescribably repulsive about him," after seeing him in church.

A Long Retirement Disturbed by Anti-Trust Prosecutions

Following the example of the immensely successful Standard trust, large firms in other industries imitated Standard's mode of organization. Soon only a small cluster of enterprises held a strangle-hold over crucial industries like tobacco, steel, and telephones. In response to such unfair monopolies, President Theodore Roosevelt's administration launched a series of attacks on Standard and other large corporate combinations. As the most visible and powerful of the trusts, Standard garnered special attention. In June 1906, Herbert Hadley, Attorney General of Missouri, announced that he intended to prosecute the trust based on a Bureau of Corporations report that described in detail Standard's immense size and power, including the complex network of 88,000 miles of pipe line and the 68.2 million barrels of crude that entered its refineries annually.

In the new era of reform-minded government, Standard couldn't make the troubles disappear through graft, and the legal battles began to take their toll. In the summer of 1907 a Federal court ruled against Standard's Indiana unit for its longstanding practice of taking rebates from railroads, and assessed a $29 million penalty. Although Standard's legal team successfully appealed that ruling and won a new trial ordered by the appeals court, in May 1908, Frank Kellogg, a special prosecutor appointed by Roosevelt, called for the break up of Standard of New Jersey, as the trust's corporate parent was known. While Standard's lawyers challenged the case all the way to the Supreme Court, the high court, led by Chief Justice White, ruled against the trust on May 15, 1911. In a 20,000-word opinion, the Supreme Court found that Standard was an "unreasonable" trust and ordered it to divest its thirty-eight subsidiaries by transferring back to stockholders of the original companies all the stock they had exchanged for shares in the trust.

Ironically, the trustbusting had the effect of further enriching Rockefeller, who owned *244,500* of the 983,383 trust shares. As an original shareholder in many of the companies that had banded together to form Standard, Rockefeller suddenly found himself in possession of a diversified portfolio of stocks in various oil-related businesses. Weaned from their parent, many of the liberated Standard units continued to thrive. The shares of many former trust components found public markets, and investors clamored for stock in the well-managed companies. The rising tide lifted Rockefeller, too. Allan Nevins, the indefatigable biographer, estimated Rockefeller's fortune at $900 million in 1913.

Rockefeller outlived the trust, as he did nearly all his contemporaries and competitors. No longer able to participate in the management of the nation's largest industrial enterprise, he spent much of his final two decades at Pocantico Hills and at The Casements, his home in Ormond, Florida, playing golf and tending to his gardens. He died in 1937 at the age of 97.

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Re-engineering Refining

Soon after the formation of the Standard Oil trust in 1882, the committees set about rationalizing and consolidating Standard's far-flung and occasionally disparate parts in search of greater economies of scale and operating efficiencies. Cutting costs was the only way to maintain profit margins in an era when the supply of oil was rising rapidly. An obvious place to start was Standard's large number of refineries acquired over the years.

Between 1882 and 1885, the trust slashed its roster of refineries from fifty-three to twenty-two, mothballing obsolete facilities while enhancing the productive capacity of those that remained. And by 1885, three Standard refineries, in Bayonne (New Jersey), Philadelphia, and Cleveland—the three largest in the world—produced nearly 40 percent of Standard's total output of 17.7 million barrels. That year, total U.S. production stood at 21.5 million barrels.

This consolidation further boosted Standard's advantage over the few remaining independents. By the mid-1880s the most efficient independent refiners had cut average costs to 1.5 cents per gallon. Meanwhile, Standard's average per gallon cost dropped from .543 cents in 1882 to .452 cents in 1885. In the same period, its profit margin nearly doubled, rising from .53 cents per gallon in 1882 to one cent per gallon in 1885.