War and Peace

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After the Paris fleet of Renault taxicabs proved indispensable in moving troops to the front to stop the German advance at the Marne in 1914, military experts came to believe that "in this war the exploding of gasoline is playing a more important part than the exploding of gunpowder." An entire army was supplied by motor transport over the road to Verdun. Even Lawrence replaced the camels of his Arab troops with Model Ts to fight the Turks in the desert. Lord Curzon, a member of the British war cabinet, declared in 1919 that the Allied cause had been "floated to victory on a wave of oil." [1]

At the 1897 annual maneuvers of the French army, a technical commission headed by artillery officers was charged with conducting experiments with motor vehicles. The British army early introduced motor vehicles into the colonial service and used them in the 1899–1902 Boer War; then in 1903 the British War Office made extensive tests of military tractors entered in a £1,000 prize competition that it sponsored. By 1908 the military budgets of France, Great Britain, and Germany contained special appropriations for subsidies to be paid out to owners or manufacturers of motor vehicles suitable for military use who agreed to turn them over to the government in the event of a national emergency. These subsidies amounted to as much as $2,250 per vehicle over a five-year period in Germany and averaged about $1,400 in France and $584 in Britain. German buyers of heavy trucks were reimbursed by the government not only for part of the purchase price but for part of their annual maintenance expenses as well. In France several thousand trucks of two-ton or heavier load capacity were purchased under a special military subsidy inaugurated in 1910. The Italian army made its first large order of truck chassis from Fiat in 1909. By the outbreak of World War I, officers

rode in staff cars and couriers drove motorcycles in European armies; the artillery tractor had been developed in France, the tank in Britain, and the armored car in Britain and in Germany.

The United States War Department, in contrast offered neither prizes nor subsidies to encourage the development of motor vehicles suitable for military use. Major J. B. Mott, representing the United States as an observer at the 1899 French maneuvers, told an Associated Press reporter, "Our needs differ considerably from those of European countries. The latter must always prepare for possible war on their own soil, and their [road] conditions favor the use of autocars, while the possibility of hostilities within the United States [is] remote, and their utility is highly problematical."[2] General Nelson A. Miles was one of the few American officers who early recognized the military potential of the motor vehicle. Upon his retirement in 1903, Miles urged Secretary of War Elihu Root to replace five regiments of cavalry with troops using bicycles and motor vehicles and to establish a road-building corps of at least five thousand men. He believed that the conditions encountered in the 1898 Spanish-American War indicated that the horse was obsolete in warfare and that the large preponderance of cavalry over infantry in the American army compared to European armies was both useless and more expensive to maintain than motorized units would be. In 1904 the Signal Corps purchased a few light trucks, and in 1906 the American army bought its first automobile ambulance, a White steamer with a lengthened chassis. But serious trials of military motor vehicles in the United States did not begin until the 1909 annual war games: that year a mock invasion of Massachusetts was umpired by General Leonard Wood in a White steamer.

Nevertheless, the most prominent motor vehicle on World War I battlefields turned out to be the rugged Model T. Over the typically rutted, shell-pocked, and muddy terrain of the combat zones, the Model T greatly outperformed the far heavier European touring cars and trucks ostensibly more suitable for military use. Consequently, the Model T chassis was adapted to serve a variety of purposes by the Allied armies. It indeed proved itself to be the "universal car" that Henry Ford had envisaged. About 125,000 Model Ts had seen service in the Allied cause by the war's end.

Military Production in Europe

It was inevitable that governments would call upon the automobile industry to play a key role in the world's first mechanized war. In Europe

conversion to the war effort was rapid and total. The European industry continued to turn out a few passenger cars, mainly for military use, while truck and tractor production was greatly expanded, and the production of tanks was initiated. In France, for example, 65,592 trucks and cars and some 3,200 tanks were made for the military during the war, versus only about 2,500 motor vehicles for the private sector. Berliet stuck with its peacetime specialty and was the top French producer of trucks. Ford Motor Company of England, the largest prewar British automobile manufacturer, also continued to concentrate on making motor vehicles and alone produced at least 50,000 Model T cars, trucks, and ambulances for the Allied cause between 1914 and 1918. Percival L. D. Perry, the managing director of Ford-England, was knighted for this in 1918. About 40 percent of British military truck production was accounted for by the newly formed Associated Equipment Company, with annual production after 1915 of about 40,000 units. After Italy entered the war on the side of the Allies in May 1915, the production of motor vehicles—most importantly trucks for the military—at Fabbrica Italiana d'Automobile Torino (Fiat) surpassed prewar levels, reaching 16,542 units in 1918 alone. German motor vehicle production rose dramatically during the war but still was insufficient to meet military needs.

The European automobile industry also rapidly diversified into the manufacture of munitions, aircraft engines, airframes, and a wide variety of other items useful to the military. In France the prewar industry leaders Renault and Peugeot diversified most widely, dominating most of the groups into which the French automobile manufacturers organized themselves for the purpose of fabricating specialized items. Fiat was as widely diversified in Italy, manufacturing munitions, aircraft engines, and airframes as well as motor vehicles. The most diversified British firm was Austin. In addition to trucks, ambulances, and over 500 armored cars, the Austin Longbridge plant produced over 8 million shells, 650 guns, 2,000 airplanes, and large quantities of other equipment, including airplane engines, generating sets, and pumping equipment. Herbert Austin was knighted in 1919 for his contribution to the British war effort. Morris Motors turned out only 1,344 motor vehicles while concentrating on making a variety of munitions. Similarly, André Citroën resigned as general manager of Mors to establish his own factory specializing in the volume production of shells. Hispano-Suiza in France, Rolls-Royce in England, and Benz and Daimler-Mercedes in Germany led in diversification into the manufacture of aircraft engines.

As a result of this involvement in the war effort, the European automobile industry underwent phenomenal expansion. Both plant capacity

and number of employees quadrupled in the French industry over the four war years. At the Austin Longbridge factory expansion financed by the British Ministry of Munitions resulted in employment skyrocketing from 2,300 in 1914 to 20,000 in 1919, while value of output increased from £600,000 in 1914 to £9 million in 1918. Fiat overnight became the third-largest Italian corporation, after the Ilva and Ansaldo steel firms. Daimler-Mercedes quadrupled its capital.

Wartime exigencies also encouraged a movement toward modernization in French, British, and Italian factories. The shortage of skilled labor was reflected in the utilization of more semiskilled and unskilled operatives, including women. Improved machine tools, and in a few instances conveyors, were adopted. Integrated manufacturing operations became more common. In Germany, in contrast, artisanal production by skilled mechanics continued with little change throughout the war.

Although reconversion to peacetime production was to prove catastrophic for a number of firms on both sides of the Atlantic, there can be no doubt that the war itself was immensely profitable for European automobile manufacturers. Despite the destruction of the Panhard et Levassor factory at Reims and the German pillaging of machinery from the Peugeot plant at Lille, despite the delay in Morris's bringing out his Cowley to compete with the Model T, despite further American inroads into the civilian car market owing to the massive conversion of the European industry to the needs of the war effort, European automobile manufacturing enjoyed a period of prosperity.

In contrast, the war was not profitable for the U.S. industry leaders, particularly Ford. Yet in the long run the war proved an irrelevancy. American technological, marketing, and organizational superiority was evident well before 1914; and for at least a decade after the war the Europeans were uncompetitive in world markets despite a quadrupling of world demand for cars and the erection of formidable tariff and other tax barriers against American imports. The situation on the eve of the war was sized up well by Giovanni Agnelli, the founder of Fiat. "I have just returned from America, where I wanted to see for myself the danger which is threatening, not only Italian industry, but that of France and Germany too. It would be difficult to deny it," confessed Agnelli in 1912. "Competition is becoming more and more difficult every day."[3] By creating a huge military demand far in excess of the effective European peacetime demand for passenger cars at the prices Europe's auto makers could produce them, the war for a short time obviated this competition. However, military experience during the war did demonstrate unequivocally the superiority of the Model T over European models.

American Preparedness

The automobile industry inevitably came to play a key role in American preparedness. Support within the U.S. industry for preparedness and the war effort came almost entirely from the small automobile manufacturers that dominated the SAE. As we have seen, the position of these companies was deteriorating rapidly. Not only had they less to lose from a drastic curtailment of civilian production, but their much smaller fixed investments in highly specialized plants and equipment made conversion to military production easier and far less costly for them than for Ford and General Motors.

The first call upon the industry came on August 10, 1915, with the appointment to the Navy Department Advisory Committee of Howard E. Coffin, vice-president and chief engineer at Hudson, and five other SAE dollar-a-year volunteers. Coffin became chairman of the Council of National Defense, which was formed in 1916 to organize the American industrial system for war. The council's Motor Transport Committee, chaired By Alfred Reeves of the NACC, planned for the mobilization of motor vehicles, and its Highway Transport Committee, under Roy D. Chapin, the president of Hudson, coordinated all highway transportation. With American entry into the war on April 6, 1917, hundreds of automobile industry executives volunteered, and 463 members of the SAE were in government employ by the war's end on November 11, 1918.

Henry Ford at first took a stand against conscription and preparedness, going so far as to sponsor in December 1915 the abortive voyage to Europe of a so-called Peace Ship carrying a delegation of pacifists in a naive attempt to stop the war. But with the severing of American diplomatic ties with Germany on February 3, 1917, Ford abruptly reversed himself, declaring that "we must stand behind the president" and that "in the event of war [I] will place our factory at the disposal of the United States government and will operate without one cent of profit"[4]

Durant, too, had pacifist leanings and at first opposed undertaking war production. The Lelands resigned from Cadillac to form the Lincoln Motor Car Company on June 18, 1917, over Durant's vehement refusal at that late date to endorse their proposal that it was a patriotic duty for Cadillac to switch over to the production of the new Liberty aircraft engine. Within a few months, however, Durant succumbed to the mounting pressure of public opinion and undertook token production of Liberty engines at both Buick and Cadillac.

Designed by Packard engineers to be mass-produced, the Liberty aircraft engine was turned out by Ford and Marmon as well as by the firms already named. Dodge and General Motors led the industry in making munitions. Ford produced the widest variety of items—including aircraft motors, armor plate, caissons, shells, steel helmets, submarine detectors, and torpedo tubes. Sixty Eagle Boats (submarine chasers) were completed by Ford too late to see action, and two tank prototypes developed by the company had just reached the stage where quantity production could begin when peace came.

The automobile industry's principal contribution to the Allied cause, however, was made in its normal role of mass-producing motor vehicles, especially trucks. The chassis of luxury cars could easily be converted to support two- or three-ton truck bodies. American truck production quintupled from 24,900 in 1914 to 128,000 in 1917, largely to meet European demand. Early war orders for trucks went mainly to the makers of luxury cars—Locomobile, Packard, Peerless, and White. But by the end of the war the leading producer of trucks was the newly formed Nash Motor Company. Even before American entry into the war, 40,000 American-made trucks had been delivered to the Allies. Over half of the 238,000 motor vehicles, mainly trucks and ambulances, that the industry contracted to make for our own government had been completed by the Armistice. Following the war, the army sold many of these trucks as surplus at low prices to state governments, which used them in road building in the 1920s.

The railroad arteries to eastern points of embarkation to Europe were clogged by 1917. So Highway Transport Committee Chairman Chapin organized caravans of trucks to be driven from assembly plants in the Middle West to the docks. The trucks were loaded with other freight. Some 30,000 trucks were delivered in this way by the war's end, inaugurating the long-distance trucking of freight as an alternative to rail transportation and calling attention to the great need for a national system of interconnected, improved highways.

The Fordson Tractor

On April 8, 1917, Henry Ford cabled British authorities that he would "comply with every request immediately" to help them mass-produce the Fordson farm tractor. Tractors were desperately needed by the British to help alleviate food shortages caused by German U-boat attacks on ships importing foodstuffs and by the loss of 80,000 farmhands to the military services. Experiments with a number of makes of tractors conducted by

the Royal Agricultural Society had convinced the British of the Fordson's superiority.

The first commercially successful gasoline-powered tractors in the United States were built by the Hart-Parr Company of Charles City, Iowa, in 1902–1903. By 1907, when Henry Ford began the experiments that led to the Fordson, about 600 gasoline-powered tractors were in use on American farms. These early machines were too heavy, clumsy, complicated, and expensive to meet the needs of the average farmer. Between 1910 and 1915, when the Fordson was announced, several tractor demonstrations in the Middle West drew an estimated 50,000 farmers and showed that there was a large potential market for smaller machines, such as the 4,650-pound, $650 tractor introduced in 1913 by the Bull Tractor Company of Minneapolis. The 2,500-pound Fordson was introduced by Henry Ford personally in August 1915 at a plowing demonstration at Fremont, Nebraska. With a wheelbase of only 63 inches, the Fordson could turn in a 21-foot circle. It was cheap to operate because its four-cylinder, 20-horsepower engine ran on kerosene. And, like the Model T, the Fordson was designed to be mass-produced at low cost. Henry Ford and Son was organized to manufacture the Fordson as a separate corporation from the Ford Motor Company on July 27, 1917.

The Fordson tractor contributed little toward alleviating food shortages during the war. By March 1, 1918, only 3,600 of the 8,000 Fordsons ordered by the British government had been delivered, and privately owned steam tractors were plowing considerably more acres of British farmland than the government-owned Fordsons. Most Fordsons were bought by American farmers, who, faced for the first time in decades with expanding markets for agricultural commodities, were anxious to comply with the patriotic slogan, "Buy Tractors and Win the War." Although it was not until April 23, 1918, that the first Fordson for domestic use came off the assembly line, by the time of the Armistice 26,817 had been manufactured at Ford's Dearborn tractor plant. Too late to have any significant impact on wartime food production, these Fordsons were distributed to the agricultural states in quotas and sold to farmers through permits granted by the county war boards.

Despite the impression given by Henry Ford that he was selling his tractors at cost as a contribution to the war effort, the $750 price of the Fordson included a tidy profit of $182.86 for Henry Ford and Son. Mass production of the Fordson reached fantastic heights justs as the market for American agricultural commodities began to evaporate in the postwar period. Some 750 Fordsons a day were being produced by 1924. Total

production rose to 486,800 units in 1925 and to over 650,000 units in 1927, making Ford responsible for about half the tractors manufactured in the United States up to that time. This proliferation of the Fordson farm tractor was the major factor in creation of the ruinous combination of higher fixed costs and overproduction of staple commodities that plagued American farmers during the 1920s.

Wartime Automobile Production at Ford

Civilian motor vehicle manufacture had continued unabated for some months even after American entry into the war, making 1917 a year of record production. Then the War Industries Board, chaired by Bernard Baruch, cut the steel tonnage allocation to the automobile industry for 1918 civilian production to half the allocation for the last six months of 1917. This led to a 45-percent decline in passenger car production by the end of 1918, as far less lucrative military truck production doubled. New car prices shot up 42 percent with excess consumer demand, and the government in addition imposed a 5-percent luxury tax on new cars. Profits slipped significantly for the American industry leaders.

The cutback in automotive work brought a substantial loss of revenue for Ford, the world industry leader. By July 31, 1918, no motorcars were being made at the Highland Park plant, although almost 3,000 a day still were being assembled from stocks of parts at the twenty-eight Ford branch assembly plants. By Armistice Day, however, assembly at the branch plants had dropped to only about 300 cars a day, practically all for the government. The production of Ford motor vehicles declined from a high of 734,800 units in 1916 to 438,800 units in 1918. Conversion back to full civilian production apparently was no problem, for the Ford factories turned out 820,400 units in 1919. The sharp drop in Ford production to 419,500 units in 1920 demonstrates that the postwar recession had a greater impact than the war effort on production of the Model T.

Participation in the war effort was costly for the Ford Motor Company in terms of profits. Net income fell from $57.1 million for the fiscal year 1915–1916 to $27.2 million for 1916–1917 and $30.9 million for 1917–1918, and the bulk of the company's profits during the war came from its civilian production. After corporate taxes, the Ford Motor Company made only $4.357 million on its war contracts. As the owner of 58.5 percent of the Ford stock in 1918, Henry Ford's share of the company's war profits after paying personal income taxes on them came to a mere $926,780.46—a fraction of what he could have made had civilian production continued uninterrupted.

The Postwar Recession

The abrupt termination of war contracts with the unanticipated coming of peace on November 11, 1918, caused little concern in the automobile industry. To fill the huge accumulation of back orders for new cars, plants were quickly reconverted—a process that at Highland Park took only about three weeks. Automobile manufacturers embarked on ambitious expansion programs, confident that the demand for motorcars was insatiable.

There was especially great optimism in the United Kingdom that development of a domestic mass market for motorcars was imminent. "The home market recovered rapidly with the return to peace, as pent-up demand, rendered more effective by the existence of forced savings and servicemen's gratuities, was generated not only by the need for replacements but also by the growth in new owner demand," Roy Church relates. "Whereas before the war the purchase of a motorcar was associated with conspicuous consumption or the occasional sportive jaunt, greater familiarity with motorized transport resulting from its widespread use during the war, together with the removal of petrol restrictions, produced a climate of expectancy and optimism among would-be consumers and potential suppliers alike, a climate whose temperature can be gauged by the crusading motto coined by the British Motor League, of 'Motoring for the Millions.'" Despite warnings from the financial press, "mass production" became a rallying cry in the trade press, and British automobile manufacturers announced plans for greatly increased output.[5]

The British bubble soon burst. Reconversion was hampered by raw material shortages and strikes, particularly by strikes of the coal miners in the winter of 1918–1919 and of the iron molders in the winter of 1919–1920. Despite the 33⅓-percent McKenna duties imposed in 1915 to stave off further American penetration of the home market, imports increased from 5,000 units in 1919 to 29,000 units in 1920, as the prices of American cars dropped relative to British models. Ford of England , exempt from the McKenna duties, continued up to 1922 to be the leading U.K. producer and in the fifteen months from October 1919 to December 1920 sold some 46,000 cars and trucks to make £852,652, the highest profit thus far in its history. Reconversion presented little difficulty for Ford of England, because its contribution to the war effort had been overwhelmingly the production of motor vehicles.

Conversely, the costs of reconversion for British automobile manufacturers who had diversified into the manufacture of munitions and other nonautomotive items proved far higher than could be justified by their low volumes of sales. And their joint demands for loans created a shortage

of capital from the banks for expansion of the British automobile industry. Austin, the most widely diversified British firm during the war, is the prime example. Following the war Austin at first attempted to compete with the Model T and other American cars with a single model—the four-cylinder, 20-horsepower (by RAC formula rating) Austin Twenty. The cheapest Austin Twenty was priced at a relatively high £495 in 1919 and at an absolutely uncompetitive £695 in 1920. In comparison, in 1920 an imported 21.9-horsepower Chevrolet cost £450 and an 18-horsepower Overland £495. The market for the Twenty shrank further when in January 1921 the British horsepower tax was raised £1 per horsepower; and in that same year, at the nadir of the postwar recession, William Morris lowered the price of his Oxford from £590 to £415 and that of his Cowley from £465 to £299. Conversion from munitions production at the Longbridge plant's North and West Works, which were acquired from the government, alone cost £289,624 in 1919–1920, while up to July 1920 only about 3,000 units of the Twenty had been sold. Additionally, only small reserves had been accumulated to meet large tax liabilities incurred under the Excess Profits Duty levied during the war.

Disaster was for a short time forestalled by a 1919 public issue of preferred stock that created the Austin Motor Company, Limited. But by the end of 1920 Austin owed the bankers £187,087 and showed for the two years 1920 and 1921 a combined net loss of £381,922. In April 1921 the company was put into receivership by its creditors. The receivership lasted only a year, and Sir Herbert Austin survived the crisis. But he emerged with a more circumscribed control of the reorganized Austin enterprise.

While the Austin experience was not entirely representative, neither was it unique. The British automobile industry in general was hit hard by the recession. Wolseley, one of the more important producers, with a volume of 12,000 units in 1920, was knocked to its knees and finally collapsed in 1926. Angus Sanderson and Harper Bean, two consortia with great resources that tried to enter automobile manufacturing immediately after the war, failed before getting off the ground. Unlike other manufacturers, who were much more integrated, William Morris was able to spread his financial risk among his various suppliers. Consequently, Morris met his need for capital, except for two £10,000 loans in 1920, out of retained earnings, and in 1921 he made a £128,000 profit. Nevertheless, he sold only 3,000 cars that year, and before he led the U.K. industry in lowering prices, the storage of unsold cars at his Cowley factory had begun to interfere seriously with the production process.

In the United States only the few firms that had resisted mounting ambitious expansion programs in the postwar euphoria managed to escape

relatively unscathed from the 1920–1921 recession. Among these firms were Dodge, Hudson, Nash, Packard, and Studebaker. On the other hand, as we have seen, the recession resulted in receivership for Maxwell-Chalmers and for Willys-Overland. Among the firms entering the industry in the postwar expansion, Rickenbacker and Wills Sainte-Claire soon failed, and Lincoln survived only as a peripheral operation of the Ford Motor Company. In 1919 there were over a hundred companies manufacturing motor vehicles in the United States; the 1920–1921 recession reduced that number very considerably.[6] Ford, with about half the market, and General Motors, with about a fifth, together already exercised monopoly power over the industry in 1919. Both firms would narrowly avoid receivership while undergoing internal crises that altered fundamentally the organization of the American automobile industry.

General commodity prices in the United States continued to rise after the war, in May 1920 reaching a peak of 121.7 percent of the November 1918 level, with automobile prices continuing to rise to a peak of 124.9 percent in August. A new Model T touring car that had sold for $360 in August 1916 cost $575 in August 1920. Responding to this upward spiral in the cost of living, some 4.16 million American workers, about 20 percent of the labor force, engaged in 3,630 work stoppages during 1919, making that year a high point of industrial unrest. Except for a major strike at Willys-Overland, the automobile industry experienced minimal direct labor-management strife. But with a million workers out on strike in the steel and coal industries and on the railroads, the automobile manufacturers felt the impact of work stoppages. Most important, new car sales slackened with the general decline in purchasing power. This decline was compounded as rural America's demand for new cars, the automobile industry's mainstay for over a decade, began to evaporate. The American farmer returned to hard times with the collapse of foreign markets after 1919. Gross agricultural income dropped from $15 billion in 1919 to only $9.2 billion in 1921 as agricultural exports declined 50 percent. And finally, the Federal Reserve Board helped burst the automobile manufacturers' balloon when, concerned about a rapid expansion in installment sales of cars, it raised the rediscount rate in November 1919. The effect was to up the down payment required on automobile time sales from a fourth or a third to about half the purchase price of the car.

Prussianization at Ford

The recession caught Henry Ford in the midst of carrying out his plans to develop the huge River Rouge complex and deeply in debt from his

successful drive to buy out his minority stockholders. As the full impact of the recession began to be felt in the summer of 1920, Ford still owed $25 million, due in April 1921, on the bank loan that had enabled him to obtain control of his company; he had pledged to distribute a $7-million bonus in January; and he had to pay between $18 million and $30 million in taxes. Over the past three years $60.45 million had been spent on developing the River Rouge plant and between $15 million and $20 million on purchasing mines and timber tracts. Ford estimated that he needed $58 million, and he had only $20 million in cash on hand. The thought of seeking another loan was abandoned once it became apparent to Ford that the bankers would demand in return a voice in the management of his company. So Henry Ford turned to alternatives that preserved his one-man rule at the expense of the long-range well-being of the Ford Motor Company.

The only progressive move that Ford made was to lead the industry in a long-overdue reduction in the price of cars. On September 21, 1920, the Ford Motor Company announced price cuts averaging $148 on the Model T in its various body styles. This reduction theoretically meant a short-term loss of about $20 on every car sold, but the loss was covered by the profit on the $40 worth of parts and accessories sold to dealers with every new Model T. Other automobile manufacturers claimed that the drastic Ford price cuts were ruinous for the industry, and some banded together in an attempt to preserve the old price levels. Within a few weeks, however, twenty-three of Ford's competitors followed his lead and reduced prices on their cars.

As the fall wore on, it became evident that the price cuts were failing to check the decline in sales. By the end of 1920, automobile production had been halted at Buick, Dodge, Ford, Maxwell-Chalmers, Nash, Packard, REO, Studebaker, and Willys-Overland; and the automobile plants that remained open were staffed by skeleton work forces. The number of employed automobile workers in Detroit dropped from 176,000 in September to only 24,000 by the end of the year.

The Ford Motor Company closed its plants "for inventory" on Christmas Eve, 1920, and kept them closed until February 1, 1921, while it disposed of "stocks on hand." Unlike most of his competitors, Henry Ford maintained full production up to the shutdown of his plants, curtailing only the purchase of raw materials. The strategy implemented at Ford was first to turn the huge inventory of raw materials that had been bought at inflated prices into a reservoir of finished cars, then to stop production until those cars were disposed of at a profit and raw material prices had declined. Consignments totaling about 100,000 unordered cars were forced on over 6,300 Ford dealers, who had the choice of borrowing

heavily from local banks to pay cash on delivery for them or forfeiting their Ford franchises. Henry Ford thus avoided going to the bankers himself and preserved his own autocracy and profits by arbitrarily unloading his financial problems onto the backs of thousands of hard-pressed small businessmen.

The shutdown at Ford was accompanied by stringent economy measures that went beyond what was necessary for survival and jeopardized the future health of the firm. Plants were stripped of every unessential tool and fixture—including every pencil sharpener, most desks and typewriters, and six hundred extension telephones. The sale of this equipment netted $7 million. The company benefited from replacing some of it with improved machinery and methods that increased output per man-hour of labor. These gains were canceled out, however, by a ruthless halving of the office force from 1,074 to 528 persons as most departments, including such critical ones as auditing, were overly simplified, merged, or eliminated. Many capable executives were lost to the company. Even more important, the development of the organized bureaucracy essential to a mature corporation in a technologically sophisticated, consumer-goods industry was stultified.

Henry Ford always considered the financial end of his company to be unessential and therefore expendable. So it was inevitable that he should take the first opportunity to emasculate the administrative staff after buying out Couzens, who had built it up, along with the other minority stockholders. "To my mind there is no bent of mind more dangerous than that which is sometimes described as 'genius for organization.'" Ford explained in 1922. "It is not necessary for any one department to know what any other department is doing." He boasted that "the Ford factories and enterprises have no organization, no specific duties attaching to any position, no line of succession or of authority, very few titles, and no conferences. We have only the clerical help that is absolutely required; we have no elaborate records of any kind, and consequently no red tape."[7]

The lack of "red tape" amounted to what an increasing number of ex–Ford executives called Prussianization, as the entrepreneurial team responsible for the Model T disintegrated in the early 1920s. A complete list of the Ford executives who were arbitrarily fired or who resigned in disgust between 1919 and Henry Ford's retirement in 1945 would add up to a small town's telephone directory. Although this critical loss of executive talent defies adequate summarizing, the most significant departure—after that of James Couzens, who resigned in 1916 over Ford's mixing his personal pacifism with company policy—was William S. Knudsen, who went to General Motors and was responsible for Chevrolet's outselling Ford by 1927. Of more symbolic importance were the 1919 departures to

build the Wills Sainte-Claire car of C. Harold Wills, the chief designer of the Model T, and John R. Lee, architect of the Ford prewar progressive labor policies. Charles E. Sorensen, who became Henry Ford's chief hatchet man, seemed to take perverse pleasure in the discharges and resignations of his fellow executives, and he managed to stay in Ford's favor by saying yes longer than any of them. But on March 2, 1944, Sorensen too ended up by resigning—at the request of a senile Henry Ford, who feared that Sorensen had ambitions to take over his company.

The postwar Ford purge extended to operations abroad. Sir Percival Perry was dismissed as managing director of Ford-England in 1919. Perry, who had been the main ingredient in the domination of the British market by Ford, is praised by Church as the "only Englishman" who before 1913 "successfully displayed a sensitivity to the commercial needs of the motoring public."[8] He had to be rehired in 1928 to restore Ford's European operations to a competitive position. In April 1921 George Brubaker, Ford's brother-in-law, and Charles T. Lathers, the Ford Detroit branch manager, made a sweep of Ford's profitable South American operations that has been described as "a tornado." Ellis Hampton, who had set up the lucrative Latin American branches, and all Latin American branch managers were replaced. "The two angry emissaries threw out typewriters, desks, file cabinets and other office equipment at the Buenos Aires, Sao Paulo, and Montevideo branches, discharged 'superfluous' employees, and evicted managers from plush offices," write Mira Wilkins and Frank E. Hill. "So clean a sweep of alleged extravagance and inefficiency did the two visitors make that their work is still vivid today [1964] in the minds of those who watched them." In late 1926 a comparable sweep of Ford's European branches was made by Brubaker, Fred Hoffman, who had charge of American branch assembly plants, and J. J. Harrington, the assistant sales manager at Dearborn. The trio became known as the "yougos," because they dismissed so many men so capriciously in so short a time that the phrase "you go" was constantly on their lips.[9]

Crisis at General Motors

While Henry Ford weathered the postwar crisis by cutting expenses not only to the bone but into the marrow, Billy Durant, an inveterate expansionist who could thrive only in flush times, came to grief. He lacked the technological expertise to discriminate among the many ideas about which he became enthusiastic, and his idea of "playing it safe all along the line" meant backing every impulse in the hope that some would pan out. His performance was brilliant when he concentrated his considerable ener-

gies on building up a single company in an expanding market, as at Buick and at Chevrolet. But his bents toward indiscriminate expansion and one-man rule spelled disaster when times got tight and the profits from a few phenomenally successful bets began to dwindle. For every Buick there was a Cartercar, for every Chevrolet a Heany Lamp. Durant believed that the market for automobiles would become saturated "only when they quit making babies," and he expanded GM accordingly. His alleged genius was almost wholly as a stock jobber, and he was deeply involved in speculative market activities in GM and other stocks at the onset of the recession.

When Durant regained the presidency of General Motors on June 1, 1916, he took over a much stronger corporation than the one he had left to the bankers five years before. The decline in GM's market share under banker control was somewhat illusory, for GM was on other grounds in a stronger competitive position. Storrow and Nash had paid off the GM loan in full and restored solvency. Internal administration and product had been improved. The du Pont alliance eased the problem of obtaining working capital and assured the supply at reasonable prices of several commodities needed for the construction of automobiles. Chevrolet was a moneymaking addition to the GM manufacturing units.

Some of Durant's moves turned out to be brilliant. The Fisher Body Company was purchased in 1918. Against everyone's advice he paid $56,000 for a faltering, one-man electric refrigerator company that served only forty-two customers, on the dubious reasoning that refrigerators were related to automobiles because both were essentially cases containing motors. He named the company Frigidaire. Strength was added to GM by the acquisition of the United Motors Corporation, a holding company owning the securities of five leading automobile accessory manufacturers that Durant had put together in the spring of 1916. With United Motors came the Delco laboratories of the engineering genius Charles F. Kettering, and Alfred Sloan's Hyatt Roller Bearing Company. A graduate of MIT, Sloan possessed an organizational talent unmatched in entrepreneurial history. Recognizing early that the automobile industry could not continue on a cash-on-delivery basis, Durant pioneered in time sales for expensive consumer goods with the creation of the General Motors Acceptance Corporation in 1919.

For no apparent reason, however, Durant added two new passenger cars to the General Motors line: the Sheridan and the Scripps-Booth. Both were losers. But even had they proved popular, they would merely have competed in the same general price range with Buick, Chevrolet, Oakland, and Oldsmobile. Durant never bothered to rationalize the various car lines he offered. Sloan objected: "Not only were we not competitive with Ford in the low-price field—where the big volume and

substantial future growth lay—but in the middle, where we were concentrated with duplication, we did not know what we were trying to do except to sell cars which, in a sense, took volume from each other."[10] As in 1910, by 1921 only Buick and Cadillac were making money for General Motors.

Durant's enthusiasm for getting into the farm machinery business was more understandable. Impressed by the initial success of the Fordson tractor, he formed the Samson Tractor Division of General Motors from the Samson Sieve-Grip Tractor Company of Stockton, California, the Janesville Machine Company of Janesville, Wisconsin, and the Doylestown Agricultural Company of Doylestown, Pennsylvania. Plans called for the production of tractors, other agricultural machinery, trucks and household appliances. A light, four-cylinder tractor, the Samson Model M, was designed to compete directly with the Fordson, and some 3,000 Model Ms were produced in 1919, together with 56,000 other agricultural implements. Then, at the August 1919 Milwaukee State Fair, Durant introduced the Iron Horse, a tractor guided by reins that was heralded as "a man of all work" around the farm and "the greatest invention up to date for the farmer." Faulty transmission belts sent the Iron Horse into "senseless meanderings." Fewer than 200 were produced, and these had to be recalled from irate farmers. The Fordson continued to outsell the Samson Model M. Plans for a nine-passenger farmer's car that would sell for only $700 never materialized, because it became obvious that there was no way to build it at a profit. The Samson Tractor Division was liquidated in 1920. Estimates of its cost to GM have run as high as $42 million, although Durant's biographer Weisberger believes that $12 million is more realistic because the Janesville plant was converted into a Chevrolet factory.

Executives became frustrated by Durant's chaotic schedule, his inability to recognize priorities, and his increasing involvement in the stock market. As stock trading came to absorb his attention, he relied on cronies and made decisions, in Sloan's words, "right out of his head." Sloan was aghast at the testing of a car model on a cross-country trip by the same man who had designed it, and at Durant's waxing enthusiastic over telegraphed reports the man dispatched "by conniving with hotel porters along his scheduled route while he rested nearer home." Sloan was even more aghast at Durant's casual attitude about the location and price of the new General Motors Building in Detroit, a $20-million project that Durant later opposed as too costly. Sloan recalled: "He started at the corner of Cass Avenue, paced a certain distance west on West Grand Boulevard past the old Hyatt building.... Then he stopped for no apparent reason, at some apartment houses on the other side of the building. He said that this

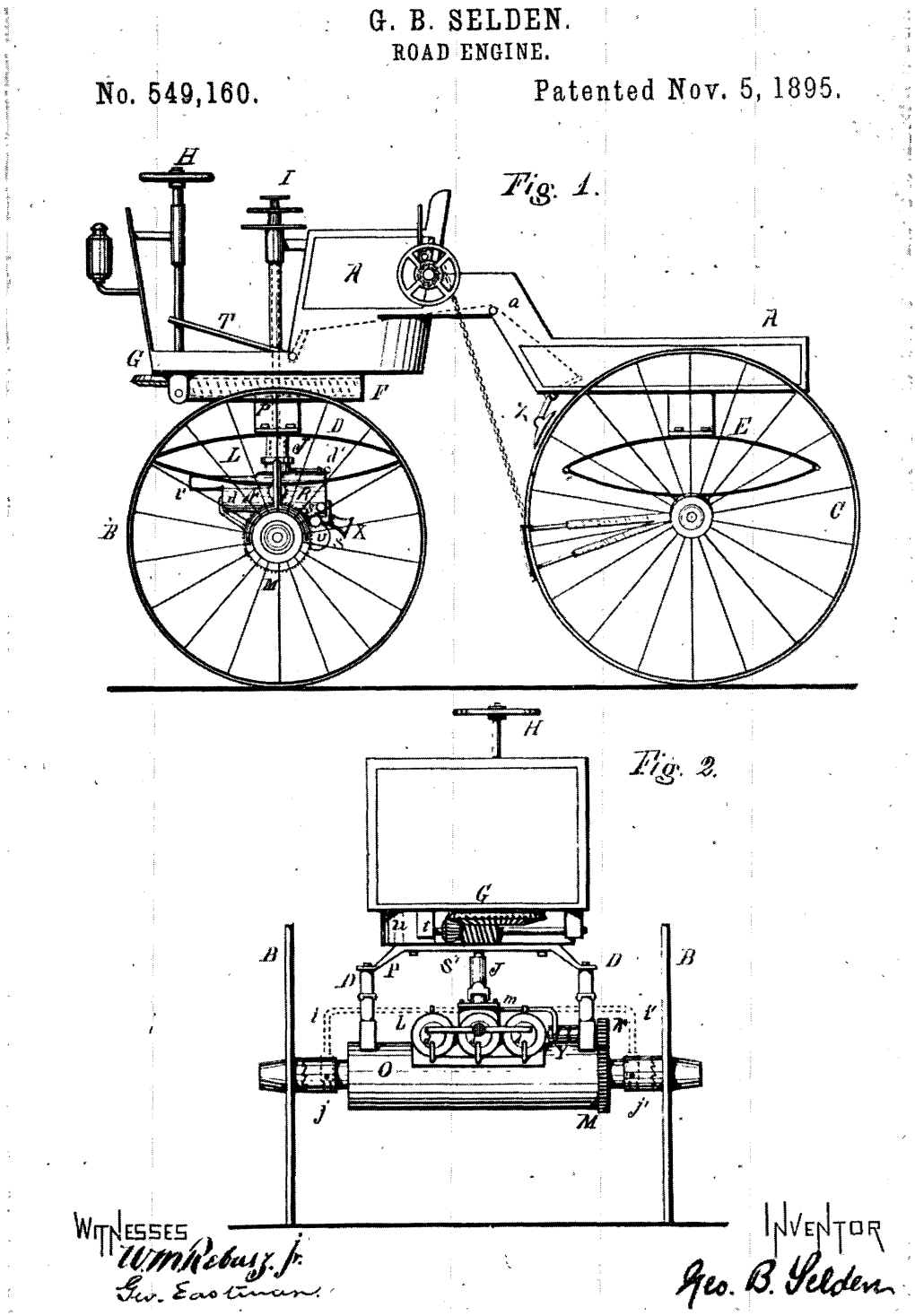
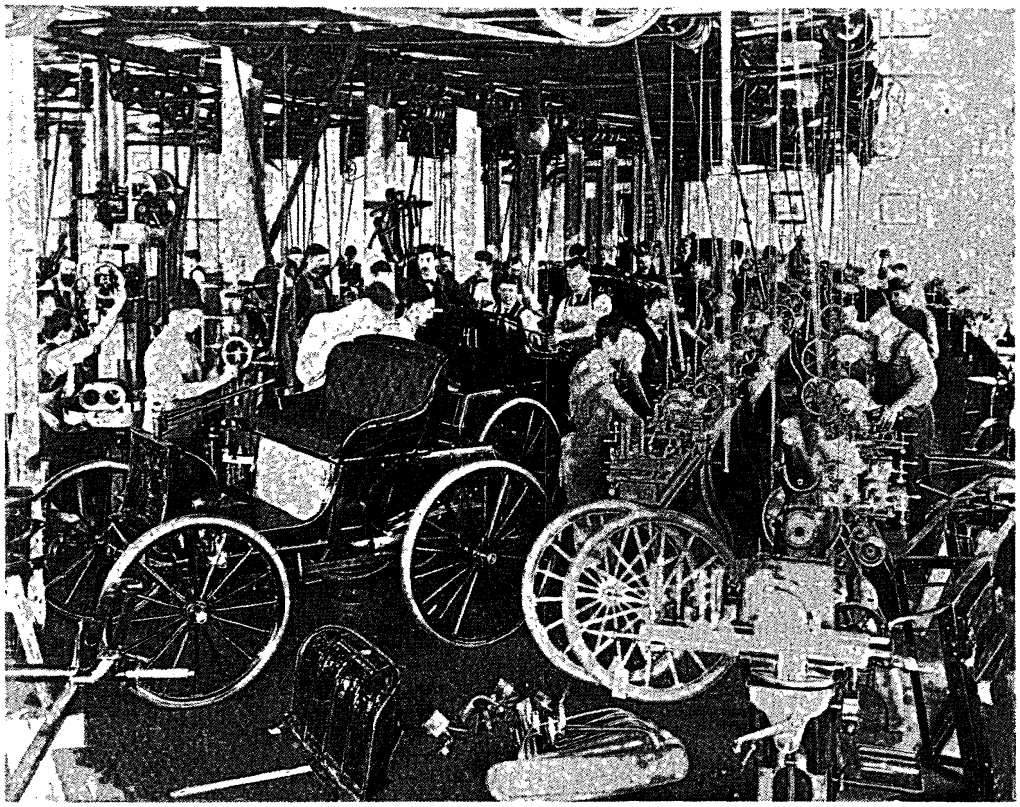
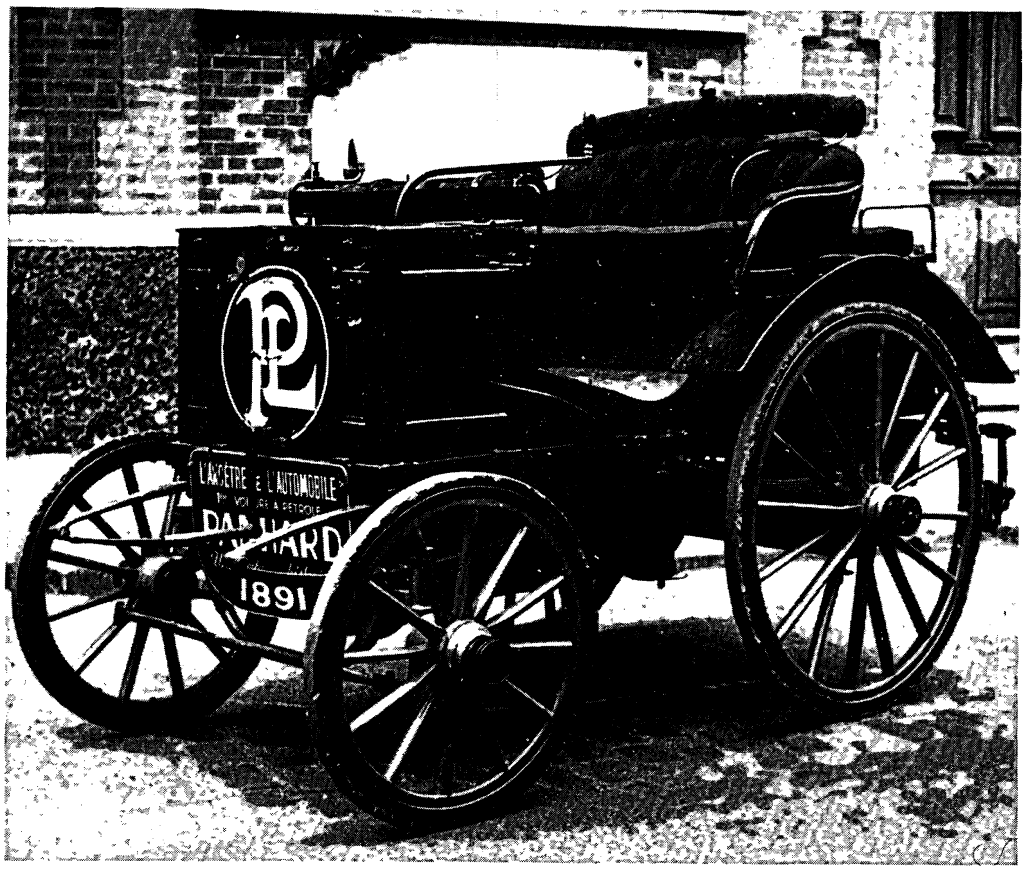


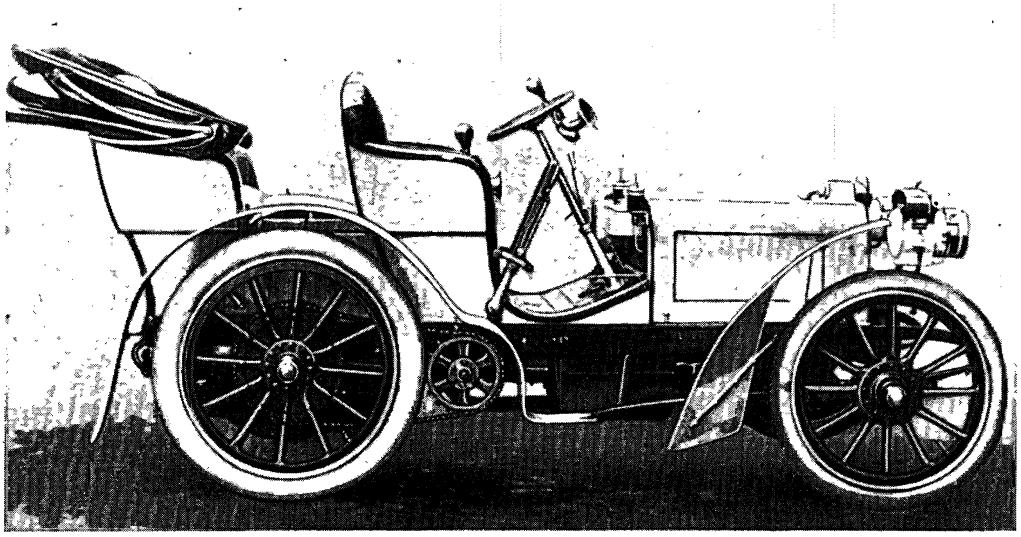
Illustration from the Selden patent papers, showing plan views of the vehicle. In 1895 the U.S. Patent Office awarded a patent on the gasoline automobile to George B. Selden, even though the vehicle in these views was inoperable as illustrated and the state of the technological art did not support Selden's allegations of priority. The gasoline automobile had already been pioneered to the stage of commercial feasibility in Europe. The Selden patent became the basis for an unsuccessful attempt to monopolize automobile manufacturing in the United States. (Courtesy Smithsonian Institution)

Reproduction of the Detroit shop in which Henry Ford built his first car in 1896. By the 1890s, in shops such as this scattered throughout the United States, hundreds of backyard mechanics and amateur inventors were trying to build automobiles that would really run. (Courtesy Henry Ford Museum and Greenfield Village)



Assembling the first American cars made from the same pattern: the Duryea factory in Springfield, Massachusetts, 1896. The scene typifies the artisanal production methods of early automobile manufacturing. Poor plant layout, excessive labor content, and primary reliance on highly skilled labor kept output low and car prices high. Whereas American manufacturers quickly moved toward volume production involving far fewer and less skilled workers, inefficient artisanal production methods remained the norm in European automobile factories until after World War II. (Courtesy Smithsonian Institution)

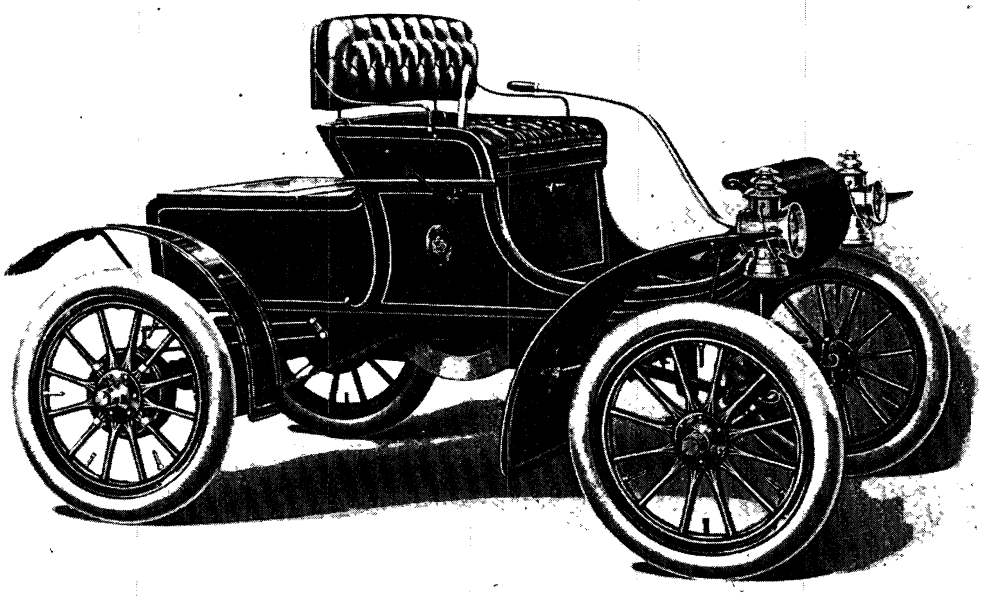




1901 Mercedes, in all essentials the first modern motorcar. It featured a honeycomb radiator, a pressed-steel chassis, mechanically operated intake valves, and an improved gate gearbox. Its 35-horsepower engine weighed only 14 pounds per horsepower, making the car capable of 53 mph. Lowering the price of such an advanced design through quantity production posed a formidable problem for early auto manufacturers. As late as 1909, in the most integrated automobile factory in Europe, some 1,700 production workers produced fewer than 1,000 Mercedes cars. (Courtesy Mercedes-Benz of North America)

Opposite, top: 1891 Panhard et Levassor, the prototype of the modern gasoline automobile. Placing the engine vertically in the front of the chassis instead of under the seats or in the back marked a radical departure from the carriage silhouette in automotive design and made possible the accommodation of larger, more powerful engines. In 1895 an improved model was driven over the 732-mile course of the Paris-Bordeaux-Paris race at the then incredible speed of 15 mph, with the longest stop for servicing being only 22 minutes. (Courtesy Free Library of Philadelphia)

Sales catalog illustration and specifications of the 1901 curved-dash Oldsmobile, the first gasoline automobile produced in significant volume. This 3-horsepower vehicle was merely a motorized horse buggy. But its $650 price put automobility with the reach of middle-class Americans and made it the best-selling car in the world from its introduction in 1901 to about 1904. (Courtesy Free Library of Philadelphia)



Oldsmobile Regular Runabout

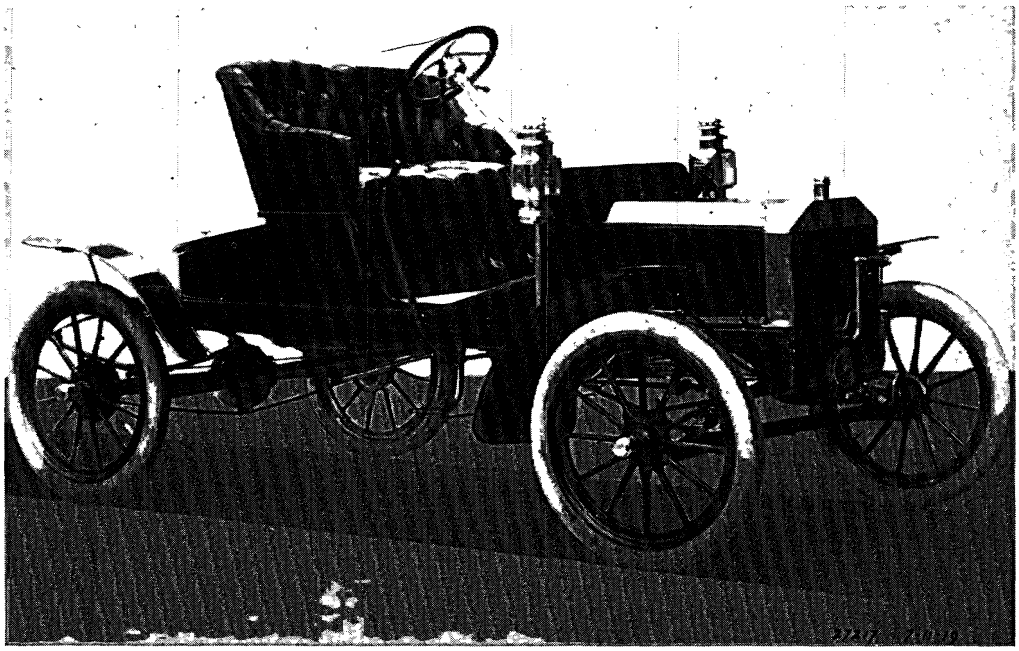
SPECIFICATIONS

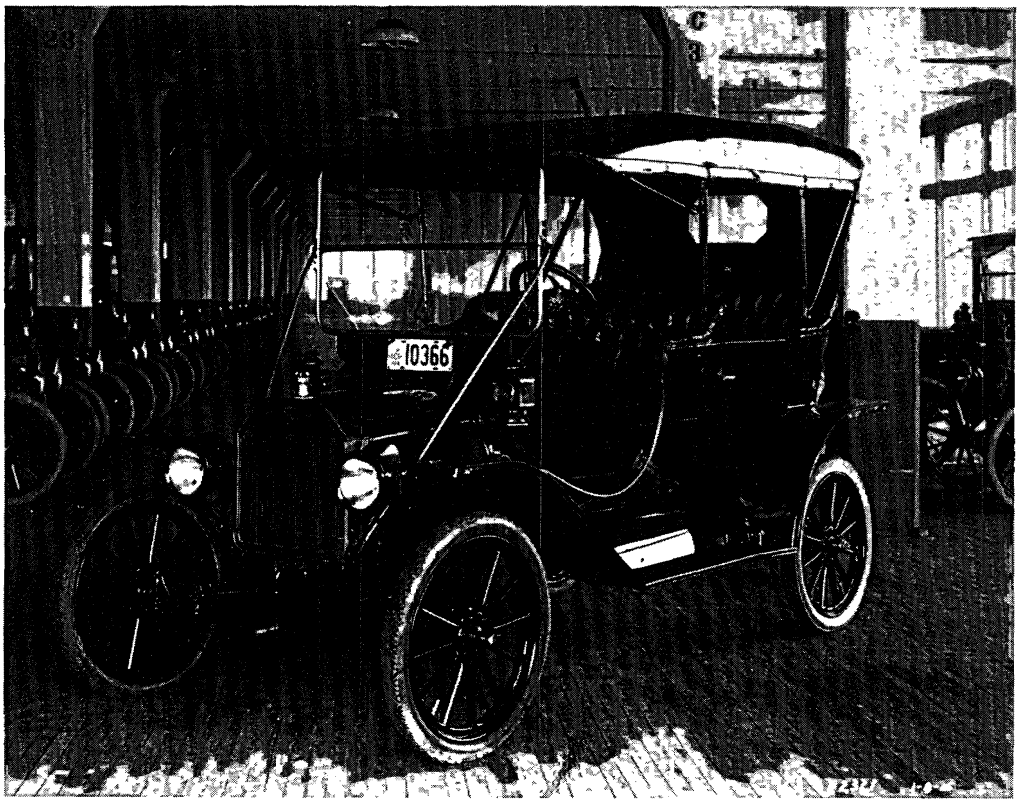
CAPACITY -- Two passengers.
WHEEL BASE -- 66 inches.
TREAD -- 55 inches.
FRAME -- Angle steel.
SPRINGS -- Oldsmobile side springs.
WHEELS -- 28-inch wood artillery.
TIRES -- 3-inch detachable.
MOTOR -- 5 x 6-inch 7 H. P. horizontal.
TRANSMISSION -- All-spur gear, two speeds forward and reverse.
FINISH -- Black with red trimming.
EQUIPMENT -- Complete set of tools and pair of large brass side lamps.
RADIATOR -- Copper disk.
CARBURETOR -- Oldsmobile.
IGNITION -- Jump spark.
STEERING GEAR -- Tiller.
DIFFERENTIAL -- Bevel-gear type.
BRAKES -- Differential and rear wheel.
WATER CAPACITY -- Five gallons.
CIRCULATION -- Gear pump.
GASOLINE CAPACITY -- Five gallons.

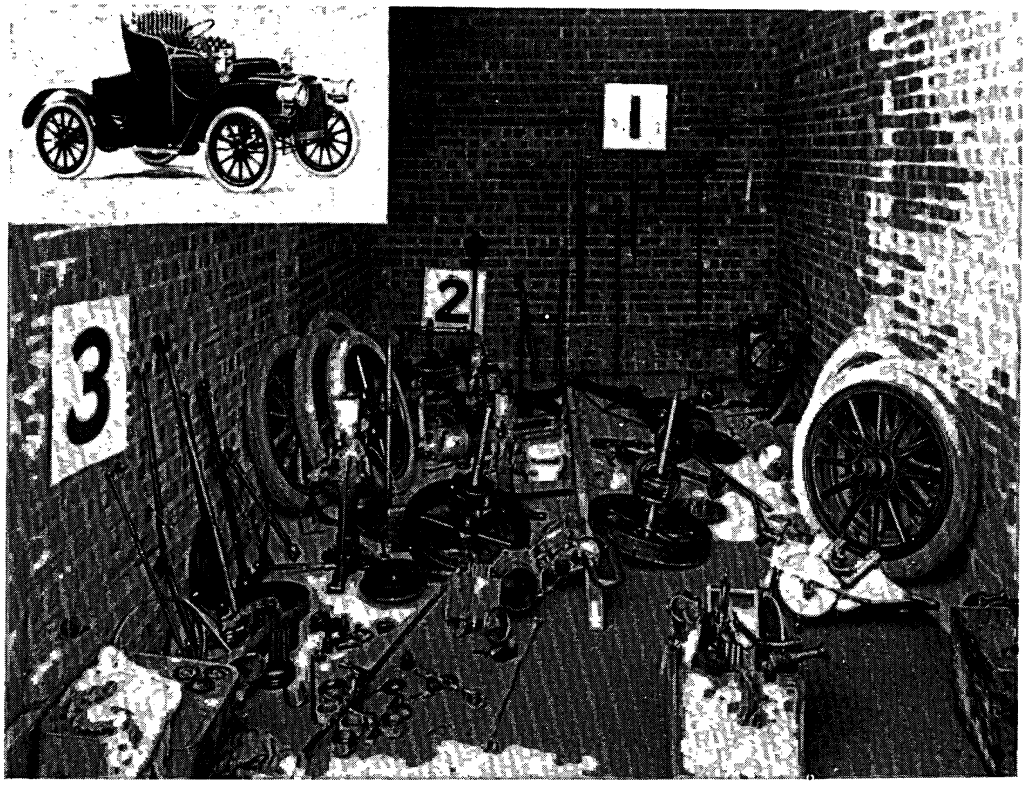
Dr. H. Nelson Jackson and Sewall K. Crocker, his chauffeur, in their 1903 Winton at a typical stop during the first coast-to-coast trip across the United States by car. Three transcontinental crossings by automobile in 1903 inaugurated informal motor touring by the average motorist. (Courtesy Smithsonian Institution)

Opposite, top: 1906 Ford Model N, the first reliable, low-priced, four-cylinder automobile. Prior to the Model N, cars selling at prices the middle-class family could afford had been one-cylinder motorized horse buggies that soon rattled apart. The Model N was one of the better-designed and better-built cars available at any price in 1906. Its 15-horsepower motor could do 45 miles per hour and got 20 miles per gallon of gas. Ford had hoped to sell the car for $500, but to maintain its high quality, the price soon had to be raised to $600. (Courtesy Ford Motor Company)

Opposite, bottom: 1908 Ford Model T, "the car that put America on wheels." The Model T offered such advanced features as a three-point suspension of the motor, improved arc springs, an enclosed power plant and transmission, and extensive use of new heat-treated vanadium steels. Yet it was initially priced at only $850 for the touring car. Ford advertising boasted that "no car under $2,000 offers more, and no car over $2,000 offers more except the trimmings." Conceived as a static model at an ever decreasing unit price, over 15 million had been sold and the price lowered to $290 for the coupe by the time of the Model T's withdrawal from production on May 27, 1927. (Courtesy Ford Motor Company)



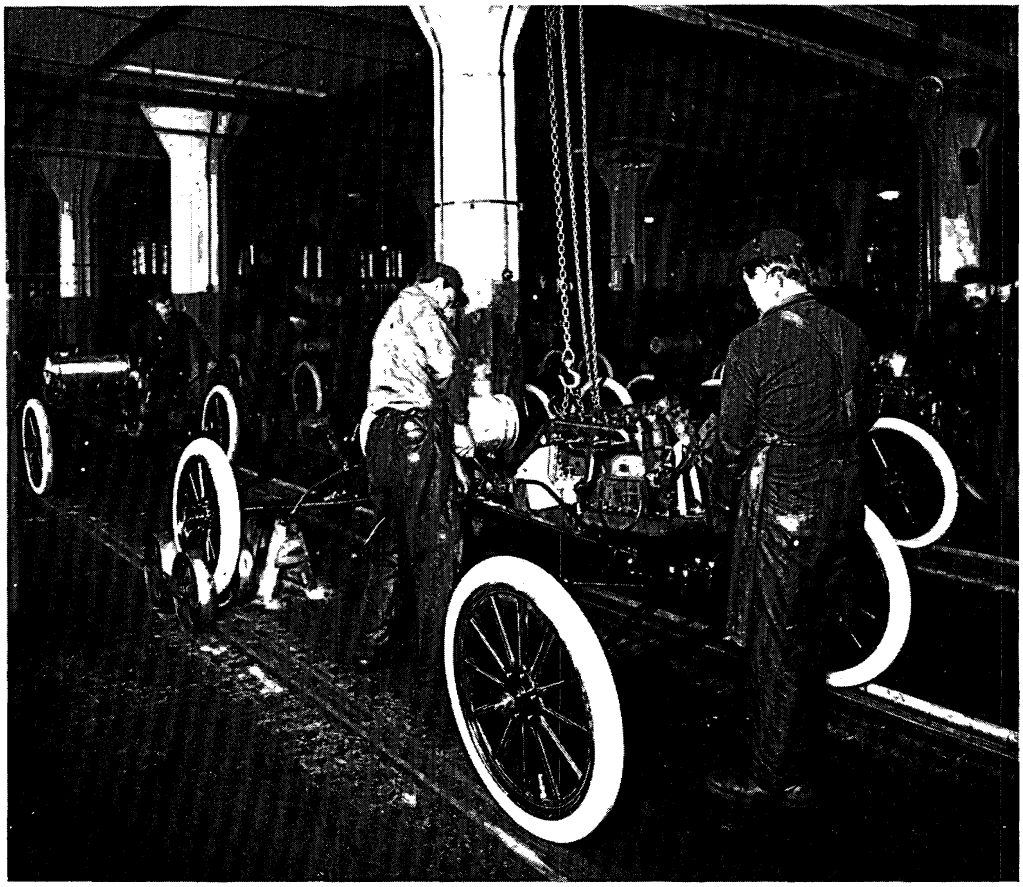


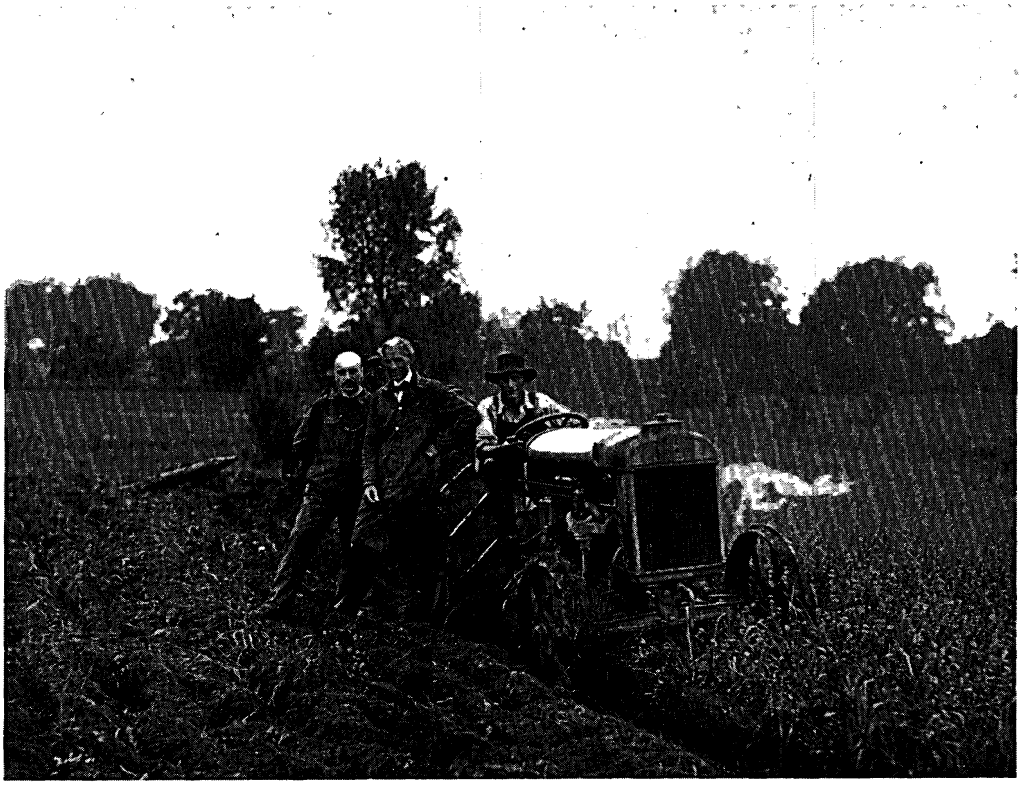


Cadillac Model B (*inset*) and scene at Brooklands racetrack in England, showing interchangeable parts from disassembled Cadillac cars. Cadillac was awarded the Dewar Trophy of the Royal Automobile Club in 1908 for the achievement of previously unparalleled interchangeability of parts, an essential element of mass production. In a shed at Brooklands racetrack, three Cadillac cars were disassembled and their parts mixed. The reassembled Cadillacs then finished a 500-mile test drive with perfect scores. (Courtesy General Motors)

1912 Cadillac, the first car to be equipped with a self-starter and a generator-battery lighting and ignition system. Charles F. Kettering developed the self-starter in 1911 as an adaptation of his electric cash register motor. The self-starter obviated the onerous problem, especially for women, of having to use a hand crank to start an internal-combustion engine. The electric device ironically sealed the doom of the electric car by putting middle-class women behind the wheels of conventional gasoline automobiles. For developing the self-starter, the Royal Automobile Club awarded Cadillac its second Dewar Trophy. (Courtesy General Motors)

Magneto flywheel assembly and chassis assembly at the Ford Highland Park plant, 1913–1914. Magnetos, motors, and transmissions were assembled on moving lines at Highland Park by the summer of 1913. After production from these subassembly lines threatened to flood the final assembly line, a moving chassis-assembly line was installed that reduced the time of chassis assembly from over twelve hours in October to less than three hours by December 30, 1913. (Courtesy Henry Ford Museum and Greenfield Village)



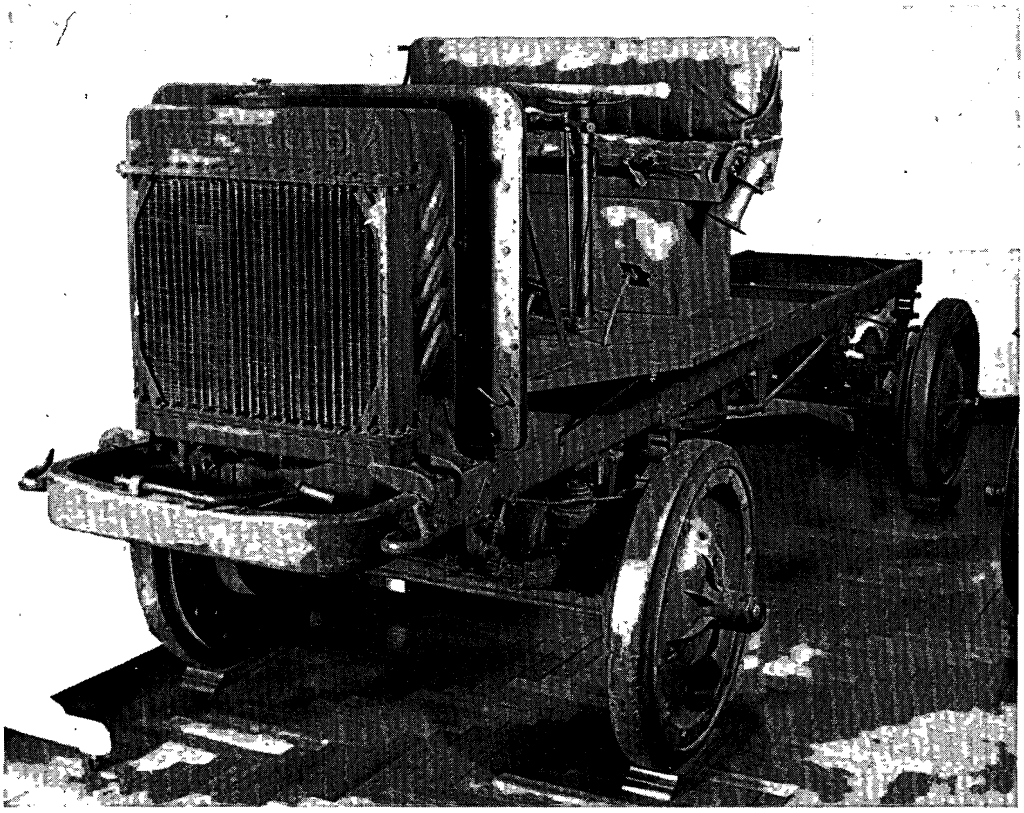


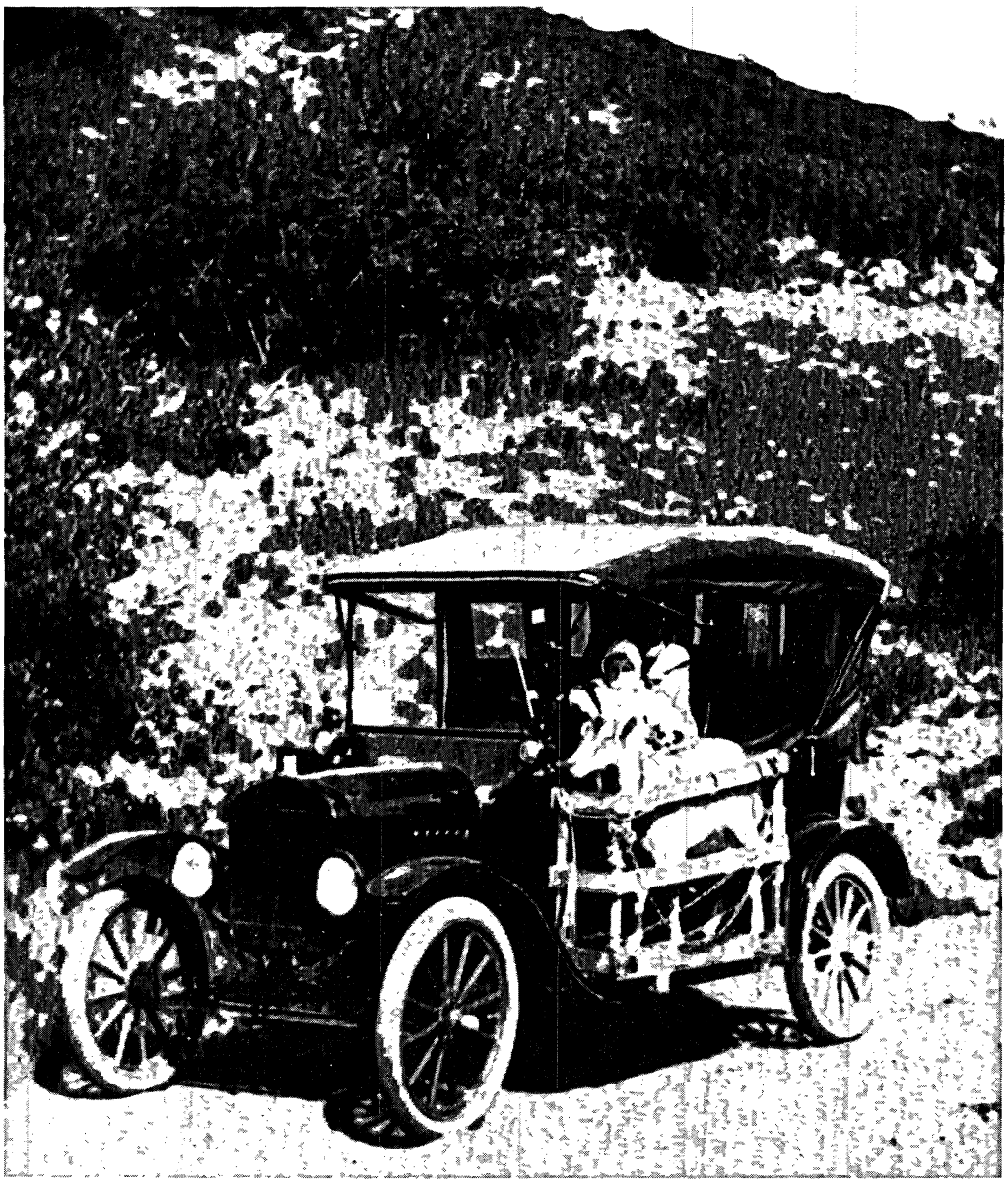
Opposite, top: 1903 Ford Model A sawing wood. Used as a mobile power plant, the automobile lightened farm labor. (Courtesy Henry Ford Museum and Greenfield Village)

Opposite, bottom: Henry Ford (*center*) with Fordson farm tractor plowing a field. Introduced to help alleviate food shortages during World War I, the Fordson tractor mechanized American agriculture and ultimately made the small family farm obsolete. (Courtesy Ford Motor Company)

Stuck in the mud, an all too common experience for the early motorist. The first census of American roads in 1904 revealed that only 7 percent were surfaced and that there was only one mile of improved road for every 492 inhabitants. Roads meandered from town to town without forming an interconnected system and were poorly marked when marked at all. (Courtesy Smithsonian Institution)

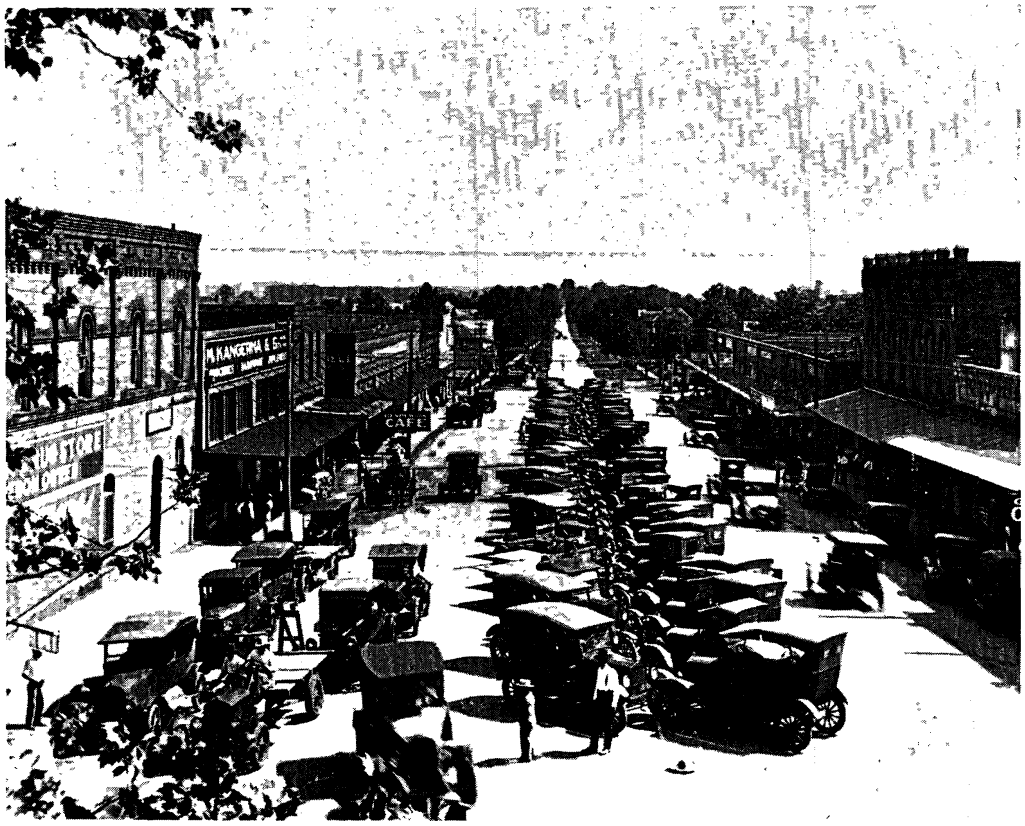
World War I Nash Quad Truck. The newly formed Nash Motor Company became the leading American producer of military trucks by the end of World War I, as U.S. truck production quintupled from 24,900 in 1914 to 128,000 in 1917, largely to meet European demand. An entire army was supplied by motor transport over the road to Verdun, and long-distance trucking was inaugurated in the United States as some 30,000 trucks loaded with other freight were driven from assembly plants in the Middle West to eastern ports of embarkation. (Courtesy Henry Ford Museum and Greenfield Village)





Farmer's 1917 Ford Model T with crate carrying goat strapped to side. (Courtesy Ford Motor Company)

Main Street, Henderson, Texas, 1927. The isolation of farm life ended with institutionalization of the Saturday trip to town to market products, shop, and visit with friends. Automobility ended the reliance of farmers on shopping from mail order catalogs, opened up much larger trading areas that killed off the crossroads general store, and brought city amenities, such as better medical care and educational opportunities, to the farm. (Courtesy Henry Ford Museum and Greenfield Village)



was about all the ground we wanted, and turned to me and said, as well as I can remember, 'Alfred, will you go out and buy these properties for us and Mr. Prentice will pay whatever you decide to pay for them.'"[11]

Sloan knew that the day of the colorful entrepreneurial capitalist was about over in automobile manufacturing. Although he had tried to talk Walter Chrysler into staying at GM, by early 1920 he himself was on the verge of resigning. It was clear to Sloan that in order to realize its potential, General Motors "would have to be guided by an organization of intellects. A great industrial organization requires the best of many minds." His ideal executive was the security-oriented technician who, sensitive to evidence and the opinions of others, worked well as a member of an entrepreneurial team. In the GM that he envisioned, there was no place for the autocratic rule of an inveterate gambler like Durant, who made decisions on the basis of "some intuitive flash of brilliance." "Eventually this salesman's optimism, unchecked by facts, became downright disturbing to men who loved him, men whose fortunes he had increased manyfold." Sloan asked himself, "Should they blindly, mutely risk loss of those fortunes?"

Sloan took a vacation abroad to think things over in the summer of 1920. When he returned in August, he "sensed something unusual and decided to ride along awhile and see what happens." What Sloan sensed was that Durant's days at General Motors were numbered.[12]

Durant's postwar expansion program, ill-timed though it turned out to be, had not been entirely his own error. Indeed, there is evidence that he urged caution on several occasions when others wanted to push ahead. The du Pont interests, with a view toward diversification and confident of a tremendous postwar market for automobiles, had invested heavily in General Motors. By 1919 they owned 28.7 percent of the GM common stock and, according to an agreement with Durant of December 21, 1917, had responsibility for the financial management of GM. Pierre S. du Pont, chairman of the corporation's board of directors, had supported the expansion program without objection. John J. Raskob, the du Pont treasurer and chairman of the GM board's finance committee, was at least as responsible as Durant for promoting the expansion program. Durant and Raskob would later each blame the other for the sorry outcome. Both "strong, optimistic expansionists," in Sloan's words, they "seemed to disagree on occasion only on what to put the money into."[13] The problems resulting from expansion were exacerbated, however, by Durant's personal manipulations of GM stock, which would be illegal now and which were even then considered highly unethical.

Raskob initially attempted to raise the money for expansion by an $84-million bond issue and by a ten-for-one split of the GM common

stock. But by May 1920 only $12 million of the bonds had been sold, so an issue of $64 million in new common stock was offered for underwriting. An English-Canadian syndicate, composed of Explosive Trades and Canadian Explosives, picked up $36 million of the issue, but that still left $28 million to be disposed of in a declining market.

The price of GM stock was being artificially held up by Durant, who with a syndicate of friends was buying large blocks on 10-percent margin. His intention was to profit personally by cornering GM stock so that the bears in the market could not cover their short lines. After his buying drove the price of pre-split GM common to a high of $420, the New York Stock Exchange intervened to prevent the ruin of dozens of banks and scores of brokers by Durant. A ruling by the exchange that the new GM shares, exchanging at ten-for-one with the old, could be used to cover short sales threatened to flood Durant's corner. So he accepted a compromise in which he placed the nominal value of his average purchase price per share on his GM stock.

As automobile sales slackened, inventories began to pile up and profits shrank. To compound the situation, Durant's slipshod style of management had encouraged the operating divisions to continue to spend large amounts for new equipment and supplies. As a result, the stock issue that had originally been intended for expansion came to be essential to the survival of General Motors.

Large General Motors stockholders, concerned about what was happening, began to unload their holdings. Durant saw that this might collapse the price of GM stock, with the disastrous result that it might be impossible to dispose of the remaining $28 million of the new issue. He also wanted to protect the value of his personal holdings, which on paper were worth $105 million. Despite his attempt now to snap up large blocks as they were offered for sale, GM common slid from its post-split price of $38.50 to under $30 a share before a banking syndicate headed by J. P. Morgan and Company agreed on June 3, 1920, to underwrite the private sale of 1.4 million shares at a still lower $20. The bankers demanded the stiff price of $1.34 million of GM stock as a commission, plus an additional 100,000 shares bonus at an insider's price of $10, and six seats on the GM board of directors. In return Edward R. Stettinius, Sr., a Morgan partner and one of the new directors, agreed to manage a $10-million syndicate that would support the price of GM common over the next six months.

On July 15, 1920, the Morgan interests announced that they had disposed of the 1.4 million shares. But Durant's problems were just beginning. On July 27, 100,000 shares of General Motors stock were dumped on the market, driving the price down to $20.50. It was Stettinius who dumped this huge block of stock that broke the price of GM common.

The bankers had agreed in writing not to sell below $20 a share. They ultimately did sell as low as $9.

The bad faith of the bankers was more than matched by Durant's own double dealing. As president of General Motors and Chevrolet, Durant was bound by the agreement with the Morgan interests that neither of these companies, nor du Pont, nor J. P. Morgan would buy, sell, or borrow GM stock on its own account. This was essential if the price of the stock were to be stabilized. Durant flagrantly violated this agreement by forming other syndicates with his cronies and engaging in personal market operations in GM common without informing either the du Ponts or the House of Morgan. In these operations he unethically discriminated against blocks of GM stockholders. As early as March 1920, for example, he divided a list of GM stockholders into three groups and sent out telegrams urging group A to hang on to its GM stock because something great was about to happen, group B to buy all the additional GM stock it could afford, and group C to give Durant options on its GM holdings.

Perhaps Durant did not think the Morgan interests were acting aggressively enough and rationalized that there was no harm in helping things out on his own. When the bankers found out what he was up to, however, they felt no obligation to uphold their end of the bargain. Their only objective in the first place had been to prevent the price of GM stock from deteriorating faster than the general market dropped, not to protect the paper fortunes of Durant and his cronies. It seemed foolish to the bankers to try to stabilize the price of the stock with several syndicates working independently of one another and with differing goals in mind. From the point of view of the Morgan interests, in fact, the main danger to the value of the stock was Durant's using it as collateral for his personal market operations. Durant, on the other hand, believed that he had been sold out and that his personal market operations were necessary to protect General Motors, his friends, and himself.

As GM common continued to tumble without the support of the bankers, Durant bought frantically. Operating heavily on margin, he supported the stock down to $12 a share before admitting that he was licked. Durant's cash resources were wiped out, and he owed nearly $30 million to twenty-one brokers and three banks.

The du Ponts, Raskob, and the House of Morgan became afraid that if Durant declared bankruptcy he might drag down with him the brokers, the banks, and General Motors. At a series of meetings in November 1920, they worked out an alternative. They would bail Durant out on condition that he hand over to them the control of General Motors.

The full extent of Durant's involvement in the market was not suspected by Pierre du Pont until November 10. At lunch that day Durant

dropped hints to the uncomprehending du Pont that the company and he personally were in the hands of the bankers and that he (Durant) would have to "play the game." Durant remained evasive and misled du Pont about the true state of his affairs until the du Ponts and the Morgan interests forced him to review his accounts with them on November 18. In many instances the accounts could only be explained orally by Durant or his son-in-law, Dr. Edwin R. Campbell.

Durant came out of the deal retaining about $3 million of General Motors stock plus a personal loan of $500,000 from Pierre du Pont, which to du Pont and the Morgan interests seemed generous. But Durant later claimed, "There were many things I had forgotten and so when I really cleaned up and protected everybody else, I had nothing left."[14] He resigned as president of General Motors on November 30, 1920.

The du Ponts gained some 2.5 million shares of GM stock, and Pierre du Pont reluctantly succeeded Durant as interim president. The job was to go in 1923 to Alfred Sloan, who for the time being became excutive vice-president. In addition to coughing up $27 million to settle Durant's affairs, the House of Morgan gave General Motors an $80-million loan. To allay fears in Flint about Durant's resignation and the "takeover" of General Motors by eastern bankers, the new management built a $300,000 hotel in Flint and named it the Hotel Durant—the impersonal corporation's final tribute to a founder who had outlived his usefulness to the firm.

Durant Motors

After a brief holiday, Durant set himself up in a modest office and invited sixty-seven friends to back him in a new automobile company. Within forty-eight hours he raised $7 million, $2 million more than he needed.

Durant Motors came into being on January 21, 1921, and grew by leaps and bounds. Facilities were built at Flint and Lansing, Michigan, and at Oakland, California. The first model produced, the Durant Four, was an exceptional value at $850. The Sheridan plant at Muncie, Indiana, was bought to produce the Durant Six. The bankrupt Locomobile Company of Bridgeport, Connecticut, was purchased to add a luxury car with a long-standing, prestigious reputation to the Durant line. With the Willys Corporation in receivership, Chrysler and Studebaker were outbid at $5.25 million to acquire the new Willys plant at Elizabeth, New Jersey, the most modern automobile factory in the world, plus the Willys designs for a medium-priced car that became the Flint. Then, on February 15, 1922, Durant announced that he would bring out the Star, which at $348 would compete with the Model T. Some 60,000 people flocked to see the Star at

its first showing in New York City, and by January 1, 1923, Durant had accepted cash deposits on orders for 231,000 Star cars, a full year's production. The Durant Motors Acceptance Corporation was formed to finance time sales and to help dealers store cars over the winter for spring delivery.

Expansion of Durant Motors was financed through the Durant Corporation, which Durant had organized as a sideline while still at GM, to sell on the installment plan to small investors the stock of General Motors, the Fisher Body Company, and other firms. With 146,000 shareholders by January 1, 1923, Durant Motors had more stockholders than any other American company except American Telephone and Telegraph, a much larger enterprise.

Feeling his oats again, Durant tried to achieve another takeover of General Motors. As he had done earlier with Chevrolet stock, he hatched a plan to trade Durant Motors stock for General Motors, which was then priced below Durant. But General Motors had increased its common stock to some 43 million shares, and he soon realized that the task was beyond his powers.

Despite its promising start, Durant Motors never amounted to much. In its best years it was unable to capture more than a fifth of the market for new cars. Henry Ford effectively crushed the threat of competition from the Star car by unexpectedly lowering his prices for the Model T. The Flint and the Durant Six never caught the fancy of the buying public, and the Locomobile could not regain its lost luster. The Durant Four was soon outmoded by competing models. A well-managed firm might have pulled through. Durant, however, failed in recruiting topflight managerial talent; and as his own energies were dispersed into the stock market, Durant Motors came to be treated as a sideline.

Billy Durant and the Bull Market

The liberty loans of World War I had demonstrated for the first time that large blocks of securities could be marketed directly to small investors. And after the war the dominating power that the eastern investment bankers historically had wielded on Wall Street increasingly came to be shared with a new group of self-made millionaires who came mainly from the Middle West. Less cautious and conservative than their predecessors, these high-rolling speculators became the prime movers in the runaway bull market of the late 1920s. By far the most important figure among them was Durant, who after 1924 was widely referred to by the press as "the leading bull."

The "bull consortium" that Durant led was estimated at various times to include between twenty and thirty millionaire investors, who were also known as "Durant's prosperity boys." It was said that Durant himself had $1.2 billion in the market by 1928 and that he directly controlled about $4 billion in investments. The financial press regularly reported the multimillion-dollar killings he made in individual pools. The most impressive involved the Radio Corporation of America (RCA). RCA had never paid a cent in dividends and had been overpriced at $85. Yet the stock was bulled by the Durant group to $420 a share in 1928, and on a split to $570 in 1929. When the insiders began taking profits, RCA dropped some 300 points within a week. Through an investment trust formed in 1924, Durant sold bonds secured by the stock of ten corporations. He also sold the securities of the notorious Goldman Sachs Trading Corporation to the gullible public after Goldman Sachs insiders quit buying their stock themselves in March 1929.

Durant was assailed on the floor of the United States Senate for luring small investors into the speculative orgy by James Couzens, who had become a senator from Michigan, and by Senator Carter Glass of Virginia, author of the legislation establishing the Federal Reserve Board in 1913. Veiled threats made during a secret night visit to the White House by Durant on April 3, 1929, failed to convince President Herbert Hoover to squelch the efforts of the Federal Reserve Board to curb the bull market through a tighter monetary policy. The result was that the "prosperity boys" divested themselves of their huge holdings during May and June.

The *New York Times* reported on June 2 that "rumors of selling by Durant have hung over the market like a pall." The impact on other large investors was tremendous, and by October 1929 the market was being held up by the many small investors. Under Durant's leadership the bulls had done such a good job of killing off the perennial bears in the market during the late 1920s that when prices started to tumble, there were few bears left around to cushion the fall through buy orders to cover their short lines. Thus, the worst financial disaster in American history became inevitable.

The market collapsed on Tuesday, October 29, 1929. Like many other insiders who had managed to unload before the initial disaster struck, Durant assumed that the worst was over. He plunged back into the market to pick up stocks at what he thought were bargain prices, only to find that the market kept deteriorating. His brokers sold him out in 1930.

Durant scraped together his remaining resources and plowed them belatedly into Durant Motors. Conceiving that the American market was ripe for a small car with low initial and maintenance costs, he started to manufacture the French Mathis in New Jersey. Ultimately the Volks-

wagen was to prove him right, but at the outset of the Depression the corpse that Durant Motors had become could not be revived. It was liquidated in 1933.

Personal bankruptcy followed for Durant in 1936. A stroke suffered in 1942 left him an invalid. He died in relative obscurity on March 18, 1947, in his fashionable Gramercy Park apartment in New York City, attended by his wife, Catharine, and three maids.

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A few weeks after Durant's death, Henry Ford died too, at his Dearborn estate, Fairlane, during a power failure on the stormy night of April 7, 1947. Ford died at the ripe age of eighty-two, fabulously wealthy, but with greatly eroded mental capacities. He was the most famous man in the world. Power within the gigantic Ford Motor Company had passed some eighteen months earlier to his grandson, Henry Ford II.

More was written about Henry Ford during his lifetime, and he was more often quoted, than any figure in American history. Theodore Roosevelt complained that Ford received more publicity than even the president of the United States. The *New York Times* reported that Ford's reputation had spread to peasants in remote villages in countries where only the elites had heard of Warren G. Harding or Calvin Coolidge. Will Rogers, probably the shrewdest folk psychologist in our history, said a number of times and in many witty ways that Henry Ford had influenced more lives than any living man.

The Russians were fascinated with *Fordizatzia* and viewed Henry Ford not as a capitalist but as a revolutionary economic innovator. A visitor to the U.S.S.R. in 1927 reported that the Russian people "ascribed a magical quality to the name of Ford" and that "more people have heard of him than Stalin.... Next to Lenin, Trotsky, and Kalinin, Ford is probably the most widely known personage in Russia."[1] The 25,000 Fordson tractors shipped to the U.S.S.R. between 1920 and 1927 promised the peasant a new agricultural era free from drudgery and want. Communes and babies born in communes were named Fordson. Ford mass-production methods, widely copied in the U.S.S.R., promised an industrial horn of plenty. Progress in adopting them was chronicled in *Pravda*, and in workers' processions Ford's name was emblazoned on